

Medical Lib.

VOL. IX

OLD SERIES VOL. LXXXVI

No. 1

THE  
AMERICAN  
JOURNAL OF PSYCHIATRY  
(FORMERLY THE AMERICAN JOURNAL OF INSANITY)

JUG 23 1929

UNDER THE AUSPICES OF  
THE AMERICAN PSYCHIATRIC ASSOCIATION

EDITOR

Edward N. Brush, M.D.

ASSOCIATE EDITORS

Charles Macfie Campbell, M.D.

Albert M. Barrett, M.D.

George H. Kirby, M.D.

H. Douglas Singer, M.D.

Harry Stack Sullivan, M.D.

Clarence B. Farrar, M.D.

G. Kirby Collier, M.D.

G. Alder Blumer, M.D.

*Editor Emeritus*

COLLABORATORS

Karl M. Bowman, M.D.

Henry A. Sinker, Jr., M.D.

William Rush Dunton, Jr., M.D.

Franklin G. Beach, M.D.

Theophile Raphael, M.D.

Edward A. Stricker, M.D.

BOWBWOOD, BALTIMORE  
THE JOHNS HOPKINS PRESS

JULY, 1929

Published Bi-Monthly

Subscription, \$6.00 a Year

Entered as second-class matter July 31, 1901, at the postoffice at Baltimore, Maryland, under the Act of March 3, 1879.  
Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917.  
Authorized on July 5, 1928.

I. Presidential Address. The Need of Consolidation of Psychiatric Thought by a Broad Program of Research. <i>Samuel T. Orton</i> .....	1
II. A Group of Benign Chronic Psychoses: Prolonged Manic Excitements. With a Statistical Study of Age, Duration and Frequency in 2000 Manic Attacks. <i>F. I. Wertham</i> .....	17
III. Tests of Reaction-Time and Motor Inhibition in the Psychoses. <i>Eleanora B. Saunders and Schachne Isaacs</i> .....	79
IV. Social Factors Involved in Personality Integration. <i>J. S. Plant</i> .....	113
V. A Method of Integrating Physical and Psychiatric Examination. With Special Studies of Body Interest, Over-Protection, Response to Growth and Sex Differences. <i>David M. Levy</i> .....	121
VI. Notes and Comment: The Atlanta Meeting of The American Psychiatric Association.—The First International Congress on Mental Hygiene.....	195
VII. Association and Hospital Notes and News: Notice Regarding Program for the Eighty-Sixth Annual Meeting of The American Psychiatric Association.—Proceedings of the First Colloquium on Personality Investigation.....	202
VIII. Abstracts and Extracts: Variation in Agglutinin Formation in Mental Hospital Patients and its Probable Relation to Focal Sepsis. <i>F. A. Pickworth</i> .—A Review of Blood Pressures in the Insane. <i>K. C. L. Paddle</i> .—Neurotic Superstructures in Psychoses. <i>Ian D. Suttie</i> .—An Investigation of the Significance of Perseveration. <i>Wynn Jones</i> .—A New Diagnostic Test for Introversion-Extroversion. <i>Clarence A. Neymann and Kenneth D. Kohlstedt</i> .—The Psychology of Readjustment. With Special Reference to Mental Hygiene Work in College. <i>Karl F. and Florence W. Muenzinger</i> .—The Application of Mental Hygiene Technique in Teaching Speech. <i>Wayne L. Morse</i> .—Psychiatric Social in the LaSalle-Peru-Oglesby Junior College. <i>Lila McNutt</i> .—A High School Demonstration Clinic. <i>Margaret M. Platner</i> .—Psychiatric Social Work in the Field of Education. <i>Elma Olson</i> .—Mental Hygiene and Social Progress. <i>Stanley P. Davies</i> .—Ueber die Erbliche Belastung in Fallen von Sogenannter traumatischer Epilepsie im Vergleich mit solchen von Sogenannter genuiner Epilepsie. <i>Gunther Weise</i> .—Epileptic Manifestations in the Group of Schizophrenic and Manic-Depressive Psychoses. <i>J. Notkin</i> .—Alzheimer's Disease. A Contribution to its Etiology and Classification. <i>William Malamud and K. Lowenberg</i> .....	204
IX. Book Reviews: Degeneration and Regeneration of the Nervous System. By <i>S. Ramon Y. Cajal, M. D., F.R.S., etc., etc.</i> Translated and Edited by <i>Raoul M. May, Ph.D. (Harv.), D. ès Sc. (Paris), etc., etc.</i> (New York: Oxford University Press, American Branch, 1928).—Ideal Marriage: Its Physiology and Technique. By <i>Th. H. Van DeVelde, M. D.</i> Translated by <i>Stella Browne</i> . Introduction by <i>J. Johnston Abraham, M.D.</i> (London: William Heinemann, Ltd., 1928).—Manual of Psychiatry. By <i>Aaron J. Rosanoff, M.D.</i> (New York: John Wiley & Sons, Inc., 1927).—Brain and Mind, or the Nervous System of Man. By <i>R. J. A. Berry, Dean of the Faculty of Medicine, etc., University of Melbourne, etc.</i> (New York: The Macmillan Co., 1928).—Sex in Civilization. Edited by <i>V. F. Calverton and S. D. Schmalhausen</i> , with an introduction by <i>Havelock Ellis</i> . (New York: The Macaulay Co., 1929.).....	212



929

1

17

79

111

121

199

201

204

12



Samuel J. Orton.

# AMERICAN JOURNAL OF PSYCHIATRY

## PRESIDENTIAL ADDRESS.

### THE NEED OF CONSOLIDATION OF PSYCHIATRIC THOUGHT BY A BROAD PROGRAM OF RESEARCH.\*

By SAMUEL T. ORTON, A. M., M. D., NEW YORK CITY.

Just as the accumulation of a surplus of foodstuffs giving leisure for other occupations is held to have been the releasing factor in the development of the arts and of civilizations so we may look upon the accumulation of a structural reserve beyond the immediate needs of any organism as the probable stepping-stone of evolution. Nature is profligate with this factor of safety and I believe the key-note of progressive evolution to rest in this tendency to an overproduction. A forereaching of function beyond the structures already built which would stimulate the development of new structures is rather inconceivable, but the building of a margin of safety which is then put to use and thus stabilized and incorporated as part of the equipment of the phylum seems the much more probable method of progress.

In the evolution of the critical faculties of mind—judgment and reason—likewise I think we can predicate the necessity of a large accumulation of factual or observational material as a prerequisite for the deduction of relationships. Not only is that part of man's brain which serves him in a sensory capacity much larger than the effector areas but we recognize, *a priori*, that our storage of facts far outruns our true understanding of their meaning and that there is much which must be covered by our faiths and our beliefs.

Man's brain however, in addition to providing a much larger storage space than that in the animals, made a cardinal step forward when it developed a method of more effective communication than

\* Delivered before The American Psychiatric Association at its 85th annual meeting, Atlanta, Ga., May 14, 15, 16, 17, 1929.

theirs. There can be no doubt that animals are very susceptible to the states of emotional tension existing in others of their kind and there is keen and prompt transmission of warnings, friendly and belligerent attitudes and other emotional states. Starting without much question from comparable roots in early man there developed very gradually the method of interchange which we know as speech. That the older patterns of communication of the animals are still operative in man can be seen clearly in the emotional contagion so often observable in group activities and in the response of the young to feeling tone of the mother which serves as a cardinal element in training. We can set no accurate time for the period required for the acquisition of speech. Some hazards have been offered by anthropologists on the ground that this or that prehistoric skull does or does not offer a large enough cranial capacity to permit the assumption that speech was possible, but viewed from the more probable angle of a gradual evolution from the method of emotional communication of animals one would expect no sudden step forward in this regard. In either event however the current estimates of man's age on the globe stretch back over an enormous period, and his acquisition of speech has probably likewise occupied a period of great length when compared with even the oldest civilizations. During all this period of development there must have been an enormous oversupply of observations which could not be interpreted—man was seeing and hearing much that he could remember and use to his advantage but could not understand. Compared with the probable long period of development of speech, man's acquisition of writing is probably very recent. Late paleolithic man was reaching toward this goal with his cave-wall pictures and his clay modeling, but writing as a means of preserving a consecutive record of events probably does not extend back for more than about six or seven thousand years. This later elaboration of the speech function however into a permanent form was obviously of tremendous importance not only in making available records of past critical analyses but also in opening a channel of vicarious observation whereby the experiences of one individual could be shared with many without that inevitable distortion which accompanies verbal transmission. Even with this marvelous aid however it is clear that observations have always long preceded correct reasoning as to their relations to each



other and it has required a notable series of master minds to deduce even the fundamental assumptions which form the backbone of scientific thinking.

Among the most complex and perplexing of all scientific problems of this or any day is that of the operation of man's brain. Its enormous flexibility and adaptability make it indeed an intricate problem and, as Bergson has pointed out, not the smallest obstacle here has been the fact that its evolution can only be studied by that which it has evolved. Nevertheless the problem has always been one of great intrigue and there has resulted a great accumulation of observations again far outstripping man's capacity for interpretation, and to this plethora of fact and paucity of explanation I think we may relate much of the assumption of the supernatural and preternatural which man has employed in the past to explain to himself that which he could not understand. Disorders of the mind we find thus interpreted in terms of magic or religion. Aberrations were held to be due to the influence of the moon, to the effect of a magic spell or to the possession by devils or evil spirits. Society set apart these "Touched of God," and those who offered no threat to society itself were permitted to wander in freedom and were indeed often granted greater immunities and privileges than the sound minded. Others there were however whose activities threatened certain customs of the social order which were held inviolable and for these, restraint in the form of chains, the straight jacket and the dungeon was applied. Undoubtedly many pioneers and seers of those ages saw beyond the confines of these tenets but to Pinel is given the credit of first raising the banner of medicine over mental disease. That this was done in one of the most troubled times of French history marks him as a man not only of strong conviction but of rare courage. His beliefs, however, prevailed and from his time on, we are told, begins the era of medicine in psychiatry. The torch he lighted has been carried onward by a long and honorable procession of men who have left behind them not only an illustrious development of this branch of medicine but an enviable record of humanitarianism as well. Among these pioneers are to be found first those whose attention was directed to the analytical study of the symptoms of the psychoses—the nosologists—who, following the true tradition of medical progress, first observed and recorded, then classified

their observations and thus gave to us the framework of our clinical entities in psychiatry. With the coming of the period of study of the anatomy of somatic disease which was ushered in by the development of gross and microscopic pathology there resulted a confidence that the disorders of the mind might likewise reveal their secrets to the scalpel and to the microscope. This gained in strength with the accomplishments of a sister science—bacteriology—which for the first time revealed demonstrable and understandable causes for many bodily diseases which had earlier shared the mystical, magic, or religious explanations offered for the psychoses. In part this confidence was warranted, as may be seen from the really long list of organic nervous and mental diseases now recognized. Indeed in the field of psychiatry alone an excellent understanding has been gained of the structural alterations of the brain in encephalitis, paresis, senility, arteriosclerosis, Huntington's chorea, the toxic deliria and other organic brain diseases—a group covering at least one-quarter of the true psychoses. Pathology and bacteriology have gone much further in the solution of the problems of somatic disease than has neuropathology in solving those of brain, but we must recognize first that they have been working in a much less complex field and second they have been much more intensively cultivated.

After the reaping of the harvest which lay ready for the earlier neuropathologists and as the yield from this field became less prolific and more difficult to evaluate, there occurred an inevitable swing away from its interests and toward the study of other factors than those of structure. More attention was directed to the study of social and environmental influences and of the effect of past experiences on the individual's later reactions and adding impetus in this direction came the notable contributions from the various psychogenetic philosophies until today I think it may be justly said that the major attention of psychiatry is focussed on this rather restricted path of attack.

I do not want to be understood as minimizing in any way the yield either to theory or in practice which has come from this point of view nor do I wish to be interpreted as criticizing those whose choice leads them into the application of these methods for pragmatic ends, but I do feel very strongly that the striking tendency of psychiatry at present to develop almost exclusively along this

path, to the neglect of coincident attack by other scientific procedures will tend to bring rapidly to an issue two crucial questions—first, can we maintain the control of this new field and second, can we justify our position as a branch of scientific medicine?

The work of our specialty in medicine is by its nature based largely on the forming of an estimate of the probable behavior of an individual and in attempts at controlling this behavior. Except that we deal largely with aberrant patterns, we share this experience with all mankind, since man's social activity is in very large part dependent on his prevision of the behavior of others, in adjusting his own actions to that forecast and in his efforts at social control. It is therefore not surprising that we find many laymen who feel prepared to pass judgment upon many technical problems and indeed I suppose there is no specialty in medicine where the physician is so often furnished with gratuitous advice as to etiology, prognosis, or treatment as our own and we are therefore more strongly challenged to establish our tenets with the greatest of security. For a long period it has been obvious to many, however, that the trained psychiatrist possessed in addition to this common judgment of persons certain technical information of a highly specialized type which in proper instances gave him a much better forecast of the future and a much better opportunity for control than was available to the layman, no matter how wide the latter's general experience or how mature his judgment. The knowledge gained in the study of the true psychoses led to the employment of the psychiatrist as a technical advisor in the courts and elsewhere and with small danger of loss of his status as a medical specialist. With the inner expansion of psychiatric knowledge which came from the study of the emotions, problems of personality, analysis of motive and control of behavior, and with recognition from without of these values, there has come an insistent demand from many new quarters for us to make available our knowledge to an ever-widening circle. This demand has indeed often put the psychiatrist in a peculiar position in that it has withdrawn him in large part from the medical problems for which his training has been largely planned and has placed him, often prematurely I fear, in the position of an arbiter of questions of behavior and of social relations. All of this has of course made its own return to psychiatry in the much clearer evaluation of

emotional and social factors and has enormously enriched our insight into behavior; but we must, I believe, bear constantly in mind that this forms only one of the many channels of information which are open to us for the study of the complex problems of mind and that no one method should be permitted to absorb all of the attention of psychiatric investigators.

While I am heartily in accord with the current application of the principles of psychiatry in the fields of mental hygiene and child guidance, I think we must recognize that the rather exclusive philosophic derivation of much of the material in use here will tend to lessen the contact between these fields and medicine and this emphasizes the challenge which those with other than medical training offer to our leadership here. We have of course initiated these movements and we have a long headstart of our competitors but it is becoming increasingly apparent that there is very little that is essentially medical in much of the work which travels under the ægis of modern psychiatry and these fields will remain under medical guidance only in so far as we are able to establish the value of the medical viewpoint and the need of medical training for their leaders. It behooves us then to look to our defenses and to continue to justify our right to command. Kipling formulated our need in the ballad of "The Mary Gloster" in the following way:

"They asked me how I did it and I gave 'em the scripture text  
'You keep your light so shining a little ahead of the next.'  
They copied all they could follow but they couldn't copy my mind  
And I left them sweating and toiling a year and a half behind."

This danger to medical dominance in the borderline fields of psychiatry is not a mere chimera of the imagination but is evinced by the increasing encroachment from all sides by other disciplines. Psychology has from its interests been more closely related to psychiatry and, particularly in Europe, more interested in psychiatric work than any other of the nonmedical disciplines. And psychology has offered us one gift of great moment. This is the psychometric method in which we recognize and welcome the advance made by the use of a fairly accurate estimate of the intellectual capacities of the individual. Unfortunately for psychiatry, however, the interest of the psychologist has shifted from the more complete study of the individual to an overemphasis on sta-



tistics and methodology. Psychology's approach in the main has been almost the obverse of that of medicine in that it looks to the establishment of a norm or average and to the measurement of individual deviations from the norm, while medicine's ambition is rather to discover the causes of such deviations in order to correct or to palliate them. The mathematical formula by which psychometric ratings are expressed gives a misleading semblance of exactitude which may be challenged, and which in practice has led to an unwarranted finality. When to this is added the deeply rooted, though seriously questioned, vision of defect as always of hereditary origin there results an attitude of hopelessness in dealing with the defectives which is sadly out of harmony with psychiatric principles. Psychiatrists working with the feeble-minded have shown us beyond question that high intelligence is not an essential for behavior training, and yet in many clinics the report by the psychologist of a low intelligence quotient ends the investigation and excludes the individual from psychiatric study and treatment. Were our concepts adequate here, the demonstration of a defect would constitute only the starting point for an intensive study of the exact intellectual and mental status as well as an evaluation of emotional factors, the personality, and mechanical or other capacities from which we might direct the course of the individual in his social, educational and economic adjustments. The extent to which measurement of the intelligence has supplanted the broader view of the individual is indicated further by the fact that in some states the examining psychologist has replaced the physician in the function of commitment of defectives.

In the field of psychometrics, psychology, on the whole, has played the rôle of collaborator, but elsewhere it may be seen entering into more direct competition with psychiatry. Psychology has laid claim to competence in the field of psychoanalysis where because of the philosophical content and the tenuous medical contacts the question has arisen not only among the psychologists themselves but also among members of our profession as to whether medical training is necessary for the "practice of psychoanalysis." The lure of application of various theorems has led many psychologists away from the study of their material as a science and to the establishment of psychological clinics not only in connection with medical advice but often on an entirely independent basis.

One of the younger disciplines which is still struggling to justify its rank as a science is Sociology and it also seems to bid fair to be drawn from its logical field of scientific study into the more enticing one of practice and we have seen the establishment in one great university in America of a clinic (*sic!*) under the auspices of the Department of Sociology operating without a psychiatrist and offering service of advice in problems of social maladjustment.

The social workers on the other hand make no pretense to the rank of scientists and their training in the intensive study of the individual by the case method has brought them into very close cooperation with the medical viewpoint in which by its nature the care of the individual must always dominate. Particularly is this true of the smaller group of psychiatric social workers whose training and whose field of work have been under the immediate guidance of psychiatrists and they are filling a place of undoubted value. Some are being encouraged by psychiatrists, however, to carry a large part of the psychiatric as well as the social treatment of the patient or his relatives, and demands from outside are attracting many away from clinic work into independent positions as mental hygiene advisors in schools, social agencies and elsewhere. Other social groups are also showing an acute interest in psychiatric methods and concepts. Here we may include the churches, the schools, the social welfare agencies and many others whose workers are attempting "psychiatric" studies of personality and behavior and who are sponsoring "clinics" of their own without the direction of a psychiatrist.

Patently the fields of endeavor in which the psychiatric viewpoint has demonstrated its worth are far too wide to be covered by our present supply of trained psychiatrists. I do not here attempt to define the boundaries which should limit the activities of those who have not been trained in medicine but who are working in these borderline fields. Clearly much of this work can be now safely entrusted to such workers under the supervision of the psychiatrist and future developments may readily bring new alignments which may adjudge such workers as independently competent here. Meantime however this overlap had done much to obscure the function which psychiatry fills, and comparable tasks are in one organization carried out by the psychiatrist, in another by the social worker, and in a third by the psychologist. This lack

of clear delimitation of function is further evinced by the loose usage of the word psychiatry. To many laymen psychoanalysis and psychiatry are synonymous; to others psychiatry means criminology; courses in "psychiatry" are offered as a part of an academic curriculum to students without medical training; "psychiatric" examinations in schools and elsewhere are given by psychologists, and to cap the climax a recent advertisement of a book on sex problems makes the announcement that it will be limited in sale to lawyers, doctors and psychiatrists! Have we then already a group of professional "psychiatrists" who are not doctors?

Let us here survey for a moment those elements in medical education which should serve to maintain psychiatry's position in these borderline fields. The graduate in medicine is the only one at work in this field who is adequately prepared to recognize and evaluate signs of concurrent physical disease. As examples of error entering through lack of this training I may cite a case of juvenile paresis in which a faulty prognosis and treatment were offered by a psychologist on the basis of the psychometric rating alone and several cases where thyroid therapy was initiated on the advice of a school psychologist solely because of scholastic retardation, and recently a case in which a diagnosis of spastic speech was made by a psychologist in a decidedly hypotonic child. Also the physician brings to his task a feeling of personal responsibility to the patient indelibly impressed upon him as a part of the heritage of medicine.

To this general background of medicine must be added special training in psychiatry to provide him with the experience necessary for differential diagnosis of the mild psychoses and for the acquisition of those psychiatric concepts which are to be seen in relief only in institutions for the care of the frankly psychotic. We pride ourselves in the demand of today for men trained in psychiatry, but we must be careful that this training of those who are to carry our banners includes the fundamentals of psychiatry as well as its many derivatives.

There is clearly room for a high degree of specialization within psychiatry today, but this has produced within our ranks a serious schism that threatens our standing. This is notably apparent in psychiatry's contact with the law. This forms an exceedingly

important but very hazardous relationship because of the opposing character of the fundamental tenets of the two subjects. The law by its nature represents the conservative viewpoint, evolving slowly, consolidating its positions carefully and with the weight of long experience influencing its interpretations. This is obviously a requisite of social stability. Psychiatry on the other hand champions the progressive. We may challenge that ultraconservatism of the law which still applies to present-day problems the criterion of responsibility incorporated in Magna Charta, but may not the jurists equally challenge much of that which psychiatry suggests today as being too unstable to be embodied in their thinking—pointing to the obvious schisms between psychiatric schools as evidence of a lack of dependable consolidation of our facts? Cooperation between psychiatry and the law can be brought into successful being only on the middle ground between conservatism and progress and by the critical selection of well established and widely accepted tenets from both sides.

Prior to the last twenty years psychiatry's interest was dominated largely by the pathological or structural viewpoint almost to the entire exclusion of the study of other organic as well as environmental factors. During the two last decades the reaction from this viewpoint together with the notable yield from the field of psychopathology has led to a swing in the other direction which has carried us to the place where the prosecution of studies of the brain lags far behind. By far the weightiest problem of today is the correct evaluation of intrinsic and extrinsic factors in the etiology of mental disturbances. We today know more about the workings of the mind than we know about the physiology of the brain. To correct this imbalance in our research I believe that we must again turn to the laboratories and to the autopsy table and to broad studies in physiology and to the other sciences with the aim of bringing our knowledge of the structure and the functions of the brain to the point where correlation with much of our psychopathological material may be attempted. Because of the limitless intricacies of the human mind and because of the importance which psychiatry has recently been gaining as a contributor to certain of the humanities we must make every effort to insure the carrying forward of this program on the broadest possible basis in order to avoid the dogma which derives from too limited an approach.



It is not the function of this address to present a program of research, but it may not be out of place to suggest a few pertinent problems.

Among the questions of greatest current interest is that of the instincts and emotions. This topic is clouded with much illogical usage such as that which applies the term instinct both to an action pattern, as for example flight, and to its generative emotion, fear, instead of reserving the broader term for that tendency to self-preservation engendered through ages of evolution which lies back of both the emotion and its consequent reaction. When stripped of such loose usage however there still appear some basic differences of opinion such as that concerning the question of the existence of a true herd instinct or social impulse. *A priori* deductions from human behavior can clearly not be expected to tell us much concerning a story which has been unfolding throughout all of the period of development of animal life and we must look to biology for road marks here. Nor are we limited by the dangers of anthropomorphism which so beset our attempts to interpret animal behavior since there are evidences of actual structural modification to be observed in biology which seem of prime significance at this point. I refer to the structural alterations which have resulted in an agenesis of the sex organs in the bees, the ants, and the termites and the substitution of a variety of bodily forms suited primarily for use to the community rather than to the individual. Genetic studies of emotional constitution also promise much. Varying racial differences of this nature are already broadly recognized and not infrequently similar patterns are to be observed in closely related stocks raised in different environments. Considerable attention has been directed to the physical and intellectual similarities in monozygotic twins and quite recently reports of a study of the acquisition of motor skills in a pair of similar twins has been recorded as showing an almost uncanny developmental likeness. Comparable psychiatric studies would seem to offer a promising field of investigation of the hereditary background of emotional variants seen in the psychoses—particularly where the two individuals have been exposed to widely different environments.

One of the most entrancing problems before us here is that of whether the anatomical substrate of the emotional responses can ultimately be unravelled. The physiologists have been at work on the somatic responses to emotions and the psychopathologists on

the sources of emotional stimuli. Obviously if we are to correlate these two approaches we must know the pathways by which the transfer of energy takes place from the cortical levels to the lower centers controlling the bodily reactions and at least one line of investigation is open to us here by the studies of the brains of those who have shown the marked emotional instability of the post-apoplectic states. This question of the anatomy of the emotions is an elusive one but must in the ultimate analysis reduce to states of responsiveness of structural elements in the nervous system. In the emotions, as in the intellect, clinical observations of developmental stages in children are of great value but these will be greatly enhanced when they can be more accurately correlated with the stages of maturation of the brain. Such an approach will aid in the understanding of the intrinsic factors and will also I believe often elucidate the origin of patterns of behavior which reappear during transient or permanent reductions in the activity at higher levels.

Many of the more concise problems of formal psychiatry also invite attack. In some of these, such as senile dementia, an organic background is already well established but much work is yet to be done; in others, such as feeble-mindedness, only a very inadequate anatomical evaluation has as yet been attempted, while in still others, such as dementia *præcox*, studies of the past have given a negative yield but have by no means exhausted the possibilities for research.

In senile dementia, excluding the vascular types, we may ask, for example, the reason for the differential ageing which results in the destruction of the brain cells before those of the soma. While the cells of the body are to be looked upon as entering into a most intimate cooperation during life yet they must also be conceived as individuals, and it seems quite possible that cells of different groups may be endowed by heredity with a different life span. Such a selective senility of frequent familiar occurrence is to be seen in early loss of the hair. Another possibility which we must consider here is that of a *cacogenetic* development which renders the brain cells in certain families more susceptible to the degenerative influences of intoxication, infections, fatigue, or other deleterious influences. Still another is that the senile process in the brain is a pure secondary degeneration and that any brain may, because of repeated infective or toxic insults, undergo a degenera-

tion before the soma of the same individual breaks down. Again, aside from these questions of the etiology of senility, there remain problems for direct anatomical investigation. It seems clear that the levels of the brain of latest evolution are those at which the greatest variation in development occurs. It is thus that we must explain the much greater differences between individuals in judgment, reason, speech and other highest level attributes than in the functions of any of the older phyletic systems. Are we also justified in assuming that the cortical structures which constitute this most recent evolutionary step are also the most vulnerable? Can we, for example, show that there is a greater cell distintegration in the association areas in senile dementia and in its precocious counterpart—Alzheimer's disease—than there is in the arrival platforms or lower elaborative zones? There is much in the clinical picture of senility which seems to support this view. Here we may consider the great obstacle to acquisition leading to defective recent memory without proportionate loss of memory for remote happenings and the striking reductions in propositional speech with relative retention of emotional and habituated speech patterns.

As we have seen, attention has been directed away from the problem of the feeble-minded to some extent because of the rather hopeless current view, but it may be well to emphasize that we know comparatively little concerning the structural background of amentia. Some studies have been reported, it is true, but there remains an unexplored area of enormous interest and it is probable that we would be amply repaid by a much wider knowledge of this question. Genetic studies of the past are of unquestioned meaning here, yet there has, I think, been too great an inclination to accept bad heredity as a final cause and too little curiosity as to how this genetic factor is transmitted, how it operates, and what structures it affects. We are justified in asking whether mental enfeeblement results usually from a true lack of growth vigor—plastic impotence—of the neuroblasts or whether in certain cases it may not result from familial disorders of nutrition or congenital glandular disturbances. Closely related to this aspect of the problem is that of checks on the development of a brain endowed with an adequate hereditary potency, resulting from accidents and diseases in childhood. There are many obvious possible factors which might lead to such "brain blight." Each human brain passes through several critical developmental periods. First we may point to the em-

bryonal period when by reduplication the neural tube is producing all the neuroblasts which ultimately develop into the millions of individual cells of the brain; second comes the period of mechanical stress which occurs at birth; and third the period of infancy and early childhood when the brain is finishing its growth and is passing through progressive steps of maturation. Experiments have shown that the brain of certain animals has a greater resistance to starvation than any other body tissue and that it still continues to gain in weight under conditions of nutrition which prevent such gain in other organs, indicating that nature has given to this most essential structure a greater margin of safety than to others. We cannot assume however that this high resistance will also be expressed against all deleterious influences. Particularly must we consider here the specific vitamin starvations and the possible influence of narcotic drugs and of neurotropic toxins on both the mother and the child. These problems not only can be approached by a wide range of studies in man including the genetic, the chemical, the endocrinological and others but are also open to a direct experimental attack in animals. An accurate knowledge of the structural conditions in feeble-mindedness will also aid to tell us whether this condition always rests on defects of structure or whether we may not also find brains with adequate equipment which have failed to function properly. Gross studies of the brain have failed to answer this question. We frequently find the brain of a feeble-minded person to be well within the normal range in size, in weight, and in complexity of gyral pattern—in other words, to meet all of the criteria of normality which we have as yet applied. This problem is also brought into relief by clinical studies of the special disabilities where failure to learn some one subject under the ordinary methods of teaching seems to be best explained on a physiological basis and to be remediable by special methods of training. The coexistence of several such correctible handicaps might readily simulate a mental defect.

Past studies of the brains of cases of dementia præcox have been reported as showing no microscopic evidence of change and, overlooking the possibility of organic disturbances which do not record themselves in structure, this has, together with the ready demonstration of psychopathological mechanisms in this disease, led to a current swing toward the acceptance of a purely functional etiology. These microscopic studies however cannot be



considered to exclude even structural factors entirely. We do not as yet know the normal pathways within the cortex with sufficient detail to be able to say that critical reductions in the synaptic interconnections between cells have not occurred in a given brain, and many other problems of the finer structural nature are also quite unanswered. Moreover, structural changes by no means cover the range of organic possibilities. The intricate chemical relations of the proteids and lipoids of the cytoplasm are far from understood and minor changes here might well exist without altering the microscopic picture. Again, organic processes are known which can be shown to lead to nervous death in animals but which leave no trace in the nerve cells. Reductions of oxygen tension, low blood sugar supply, and disturbances of balance between the electrolytes are examples of this type of organic disturbance. I do not assert that dementia præcox is of organic origin but I do want to stress the fact that the absence of relatively coarse microscopic alterations in the nerve cell bodies does not exclude the presence of other structural alterations or of other organic but non-structural disturbances and that too thorough an acceptance of either the functional or the organic interpretation, based on the evidence today at hand, will tend to limit the research approach by which this most important problem should be attacked. Moreover an agnostic attitude will permit our clinical studies to progress with less prejudice. From the clinical standpoint dementia præcox may be characterized as a reduction of capacities affecting chiefly the highest level of mental activities. We see defects in the synthesis of experience, expressed in loss of judgment and reason, defects of elaboration expressed in disturbances of imagination and ideation, and reductions of the expressive functions as shown in the disintegration of propositional speech. All of these bespeak a rather selective loss which has equivalent localizing value whether it be interpreted as organic or as functional in origin. In either event we relate these losses to disturbance at the latest phyletic plane and this view permits us a wider range of interpretation of certain symptoms. We have come to recognize that many early patterns of reaction are not lost as the higher centers gain command but are merely subjugated and may reappear if the dominating control be lost or be reduced. This is the phenomenon of resurgence by defect and may perhaps be best illustrated by the infantile pattern of reflex control of the bowels and the bladder which is early

brought under command of volition but which reappears in the event of destruction of the cortex or the cutting of its pathways of control. Such an interpretation applied to dementia præcox makes possible an explanation of echolalia and echopraxia as the resurrection of mimicry patterns of childhood and may also be used to interpret certain psychopathological regressions without the assumption of an active retreat from reality.

This presentation has been offered to you not in support of one viewpoint nor in criticism of any other but as a plea for the maintenance of a broad and critical viewpoint by psychiatry, and to this end I offer you this credo.

All of the structures of an organism are the product of a progressive evolution and all of the attributes of an organism are dependent upon the activities of its structures.

From this I hold that our research should study the origin and meaning of the structures of man's brain, should aim at correlation of function with structure and at a knowledge of the repercussion of such functions on the structure and on its activities.

The history of animal life in the world as revealed by paleontology shows an imposing series of highly specialized animal forms each in its own age rising to the pinnacle of animal development only to disappear or to be superseded by still higher forms. Man is the highest step of this ladder and his success in modifying the environment to his needs has enabled him not only to dominate the animal world but also to put many agencies of nature to work in this service. His past evolution has been almost entirely spontaneous and without effort on his part at guidance or control. He is coming to be interested however not only in his origins but also in his future. Unquestionably, he will be able to modify the course of this future but whether to his advantage or not will depend not only on the number of facts at his command but also on the clarity of his vision concerning the laws which govern these facts. The profundity and complexity of the questions to which man must seek answer here are such that they will not be solved in our generation or for many of those which succeed. Nor can any isolated science alone hope to meet the need here. An enviable position in this program of human improvement lies open before Psychiatry if she can employ her schisms for her own advancement and establish her researches on a sufficiently broad basis.

# A GROUP OF BENIGN CHRONIC PSYCHOSES: PROLONGED MANIC EXCITEMENTS.

WITH A STATISTICAL STUDY OF AGE, DURATION AND  
FREQUENCY IN 2000 MANIC ATTACKS.

By F. I. WERTHAM,

*Associate in Psychiatry, Johns Hopkins Medical School.*

- I. Survey of older and current views on chronic manic states.
  1. Various states of dementia with excitement designated as "chronic mania."
  2. Contrasting views as to the existence of a specific disease picture, "chronic mania."
  3. Prolonged manic states among late recoveries.
  4. Chronic hypomania and constitutional excitement.
  5. Chronicity of acute manic attacks.
  6. "Chronic mania" and paranoid delusions.
  7. The clinical grouping of Nitsche.
  8. "Transformation" of symptoms in prolonged states of manic-depressive psychoses.
  9. Recent views on chronic manic excitements.
- II. Presentation of seven cases of prolonged manic excitement.
- III. Clinical discussion.
  1. Diagnostic considerations.
  2. Main clinical features.
  3. Anthropological characteristics.
  4. Changes in the clinical picture during the course of the psychosis; absence of deteriorative signs in prolonged manic states and the relative benignity of manic-like states.
  5. Attempt to formulate the conditions favorable to the occurrence of prolonged manic excitements.
- IV. Statistical study of the frequency of prolonged manic excitements and of the duration and age at admission in 2000 cases of first admissions of manic attacks.
- V. Conclusion.
- VI. Summary.
- VII. Bibliography.

Prolonged manic psychoses constitute a controversial field of psychiatry about which there is little knowledge or agreement. They have been discussed mainly, if not exclusively, from the point of view of formal diagnosis and classification. The opinions on the subject held by different authors have been based on very few well-recorded cases.

Under the designation "chronic mania" very different conditions have been described in the evolution of psychiatry. Isolated remnants of some of the older views, detached from the nosological scheme in which they originated, still exercise an influence on psychiatric thought, so that an understanding of historical antecedents is necessary for a comprehension of the present-day problem of chronic manic conditions. Since, however, the discussions of chronic mania seem to have touched on almost every subject of clinical psychiatry, an account introductory to the present study must of necessity restrict itself to allusions to some of the most salient points.

In the older literature (Marcé, Dagonet, Bucknill and Tuke, etc.) a separate disease picture "chronic mania" played a great part. It was not clearly defined and included different states of mental disorder, usually with more or less marked dementia and associated with initial or intercurrent states of excitement. It was considered a frequent condition and relatively many cases in psychiatric hospitals had this diagnosis. Mendel in his important monograph on mania in 1881 took a definite stand against these views. What had been called "chronic mania," he contended, were merely states of dementia with excitement which did not belong to mania at all. The clinical picture of mania according to him does not change, even if the duration of the attack is long. There is no distinct disease picture of chronic mania and he therefore considers it expedient to drop the term "chronic mania" entirely. On the other hand, he claims that incomplete recoveries ("*Heilung mit Defekt*") occur, especially after several attacks. If the duration of the attack is over eighteen months recoveries are rare exceptions. Mendel's views were widely accepted, though not by all authors. Up to the present day there is no complete agreement as to whether there are conditions of "chronic mania" clinically distinct enough to be regarded as a separate entity, a reaction type. Mendel himself later recognized a chronic mania which he considered "a secondary state of mental weakness." Kraepelin in the first edition of his textbook (1883) mentions conditions of manic excitement where the patient keeps permanently grandiose delusions and falsifications of perception which originated in the acute attack. In this delusional condition, transient states of excitement occur. This disease picture of "chronic mania" really belongs

according to Kraepelin to the group of states of intellectual weakness (*Schwachsinn*). It ends regularly in dementia. Schüle in similar fashion in his textbook of 1886 states that chronic mania can develop from acute manic conditions. He mentions the confusional element and the fact that movements acquire a certain automaticity in character, and considers that chronic mania is characterized by the admixture of demented weakness (*blödsinnige Schwäche*) with the manic symptoms.

Wernicke in his textbook (1906) describes a separate condition as chronic mania. Acute mania, according to him, never becomes chronic mania, neither after one nor after many attacks. The symptoms of chronic mania are about the same as those of acute mania, but they are modified as is commensurate with a chronic, stable state: flight of ideas is moderate; there is clearer consciousness (*Besonnenheit*) and more self-control; the hilarious mood is less marked; through constant collisions with the environment an angry mood is entertained; the mental productivity is increased and there is an overestimation of self. The patients are not considerate, but they demand consideration. Wernicke discusses only one patient showing the above picture. This patient had a severe psychosis of several years duration. Wernicke says of him that he certainly does not show the picture of pure mania. The patient developed no insight. Wernicke would speak of the condition as "recovery with defect" or, since, as he adds, there may be objection to that term, "a state of defect acquired by a psychosis." There is no doubt that in the descriptions of "chronic mania" of different authors, like that of Kraepelin in 1883, definitely schizophrenic conditions were included, as well as organic and other conditions in which prolonged or repeated excitements can occur.

In a different and more remote sphere of clinical psychiatric studies some interesting reports of prolonged manic excitements can be found. It was an axiom of the older psychiatry that after a certain number of years mental diseases become incurable. Esquirol thought that even recoveries after two years were exceptions. Later experience crystallized into the view that recoveries after three years can be expected only in very exceptional cases. This view also gained acceptance in forensic usage. Kraepelin thought that late recoveries belonged predominantly to the group

of catatonics and that these recoveries are usually recoveries with defect. Cases with recovery after a duration of three years were designated as late recoveries (*guérisons tardives*). In 1900 Kreuser made an interesting study of these late recoveries. He tabulated thirty cases according to diagnosis. It seems noteworthy, although the fact has not so far been mentioned in discussions of chronic mania, that the group containing the largest number of late recoveries among his cases is mania (*Tobsucht*). One of Kreuser's patients had two manic attacks, from the second of which he also recovered, after an illness of over three years. Kreuser reported later three other cases of late recoveries, two of which had chronic manic conditions. It is of interest that among the few sufficiently well-recorded cases of chronic manic excitements a considerable percentage is to be found in this literature on "late recoveries." Snell in 1856 had included two cases of chronic manic excitement in his "Noteworthy cases of recovery in psychiatric practice." In similar fashion, cases of chronic manic excitements are found in papers on late recoveries by Schmitt and others.

As a result of the dogma of the practical incurability of chronic psychoses, the interest of psychiatrists in these cases of "late recoveries" was focussed only on the elucidation of accidental causes which brought about these unusual recoveries. Shocks and traumas were considered as causes which by way of circulatory or molecular changes in the brain initiated these unexpected cures. It may be added, as a digression, that the observation that suppurative processes and fevers seemed to precipitate such unexpected recoveries was historically one of the sources of the modern malaria treatment of general paresis. Kreuser seems to have been one of the first investigators to point out that "late recoveries" are not to be explained by accidental circumstances, but are conditioned by the structure of the psychosis itself.

It was from another angle and from different facts that the problem of chronic mania became later a subject for investigation and discussion. In 1902 Siefert in a paper, "Concerning chronic mania," published a case of a man who had been in a mild excitement for a number of years. Siefert followed Mendel in ruling out of "chronic mania" all cases showing secondary states of mental weakness with intercurrent excitements. He did not agree with Krafft-Ebing who termed chronic mania the cases of



simple mania with protracted course. The interest of Siefert's case lies in the fact that the patient had apparently been all his life of a constitutional hypomanic temperament. Siefert speaks of him as mania levis or hypomania. He had found no other cases in the literature. According to him the designation chronic mania should refer only to cases characterized by the manic symptom complex with no change of the clinical manifestations and no symptoms of psychic defect. From a medico-legal standpoint it is significant that Siefert regards his patient as legally irresponsible because suffering from a psychosis of the same order as any other major psychosis. The chronicity of the manic condition in Siefert's case is in reality on a different basis from that of the cases previously described as chronic mania. In these other cases there was a severe general behavior disorder with either prolonged or recurrent states of over-activity and excitement and with evidence or at least the suspicion of a supervening mental defect. The chronicity of Siefert's case is due to the fact that the patient presents a manic exaltation in a mild form which is really part of his constitutional make-up rather than a circumscribed psychopathological reaction. It is doubtful whether his case today, especially in court, might not be considered a constitutional psychopathic personality with hypomanic temperament (and, incidentally, chronic alcoholism). However that may be, there are many transitions from mild hypomanic swings to the more ingrained hypomanic tendencies of certain psychopathic personalities, the clinical differentiation of which is difficult and certainly not carried out in unitary fashion by different psychiatrists. Before Siefert, van Deventer in 1895 had discussed an observation of similar clinical manifestations as a case of "sanguinic inferiority." He refers to transitions from the normal "sanguinic" states to outspoken manic states. In these cases of "sanguinic inferiority," "*Lust und Ungebundenheit bilden den roten Faden wie bei der Manie*," as he expressed it.\* Koch discussed the same condition under the heading "constitutional mania." According to him these patients may have exaltations which border on mania (*Tobsucht*). They later become intellectually dulled, more in the sphere of judgment than in the sphere of memory and ethical behavior. Jung in 1904 published observations

\* This conception of "joy and unrestraint" is similar to Schilder's "manic fluidum," characterized by "joy and action."

on similar conditions. He drew attention to the fact that patients with constitutionally hypomanic tendencies often drift into anti-social behavior, and cases which had been designated moral insanity might really be due to manic dysthymia (*manische Verstimmung*). He suggested the latter term in preference to chronic mania, which he considered too strong a designation for such cases as those described by him and Siefert. For chronic mania he demands the main symptoms of affective lability, chiefly of hilarious nature, flight of ideas, distractibility, overactivity, and, dependent on these main symptoms, overestimation of self, grandiose ideas, alcoholism, and moral defects.

In the same year (1904) there appeared an important contribution by Schott to the problem of chronic mania, based on observations from a different angle than that of constitutionally excited conditions of mild degree. Schott described four cases of severe manic excitement lasting over many years. It was his merit to have proved that manic conditions of severe degree can continue chronically. Cases like his are very rare, a fact that Nitsche emphasized later. Schott considers the condition in his cases of chronic mania as a state of dementia, but one different from that of dementia præcox. He refers to Schüle's views on the subject (see above). Heredity and constitution are in his opinion the foundation on which chronic manic conditions develop. He points out the difficulty of differentiating these conditions from schizophrenic reactions with excitement. He characterizes chronic mania by a series of positive and negative symptoms, that is to say the positive symptoms must be present, the negative ones absent. The positive symptoms are good apperception and observation, mental productivity, continuously elated mood, pressure of activity, good memory and retention, spontaneity and interest, dulling of affectivity, weakness of volition, overestimation of self, mental weakness—especially in the sphere of judgment, the patient's lack of critique in regard to himself and his efficiency, capability of vivid responses. The negative symptoms are: depressive or inhibited states, stereotypies in attitude and movement, untidiness and destructiveness without marked excitement, confusion, insight, pronounced or permanent feeling of illness, fixed or systematized delusions, energetic wish to leave, silly euphoria, behavior influenced to a pronounced degree by isolated hallucinations or delusions.

Hösslin in 1909 found that there are chronic incurable forms of manic-depressive psychoses which develop from the acute conditions. They do not show signs of dementia unless there are arteriosclerotic or senile admixtures. There is, however, a certain mental defect in the sense of a more or less marked dulling of the emotions. Hösslin feels that the prognosis of manic-depressive psychoses lasting over five years is not good, and that it becomes definitely bad when after an improvement of the acute condition there are signs of dulling of affect. In his study are included only patients who were over forty years of age when admitted to the hospital. Fröhlich, from the study of his material, doubts the existence of "irreparable mental defect" in late states of manic-depressive psychoses. He emphasizes the influence on these conditions of age and of the long stay in the atmosphere of the asylum. In a similar way Régis ascribes the decreased productivity of these patients during the course of their psychosis not to intellectual reduction but to the prolongation of their stay in the hospital, which tends to restrict the patient's sphere of ideas.

There is a further aspect of the development of the clinical conceptions of chronic manic conditions which for the sake of clearness may be discussed separately and which requires a further very brief historical digression—or rather regression. This is the association and connection between delusional states and chronic mania. That states of depression and elation very easily form the soil on which delusional ideas originate was an old psychiatric observation. Evidently on that basis it was thought—an opinion which Griesinger advocates—that psychopathic conditions characterized mainly and predominantly by delusions are always secondary and follow a melancholic or manic state. In 1865 Snell combated this view and, while accepting the existence of secondary paranoia, established also the existence of a primary paranoia—of delusion formation independent of previous manic or depressive stages. There followed the intellectualistic interpretation of paranoia, with all the stress laid on the disorder of thinking as opposed to feeling (affect). Jolly in 1893 was one of the first to emphasize again the rôle which the affective life plays in the formation of paranoid delusions. But it was by the way of chronic mania that the affective roots of paranoid conditions were again clinically investigated. In 1905 Specht in a paper on "Chronic mania and

paranoia" drew attention to the connections between abnormal states with delusion formation and chronic manic (hypomanic) conditions, which latter he at first regarded as forms of constitutionally psychopathic states, in agreement with Koch, Jung and Kraepelin. Paranoid delusions are "secondary symptoms" of chronic mania. Specht claims that other authors who have either not accepted the conception of chronic mania or who have been guided by the "secondary symptoms" of this condition, classify cases of chronic mania under the headings of chronic paranoia, chronic alcoholism, or even epileptic psychoses. He later developed his point of view more extensively. He regards the affect of mistrust as the underlying affect of paranoid conditions. This affect of mistrust is a mixture of elated and depressive feelings (pleasure and pain). Corresponding to this duality in the affect there is in paranoid delusions the duality of persecution and overestimation of self. Specht pointed especially to the fact that in the transition from depressive to manic conditions there often arises an affect of mistrust and consequently paranoid delusions. Chronic mania belongs to the extended (*gestreckten*) forms of manic-depressive psychoses. Specht finally came to the conclusion that paranoia is one of the manifestation forms or phases of manic-depressive psychoses, like mania or depression. His view, here only very briefly indicated from the standpoint of the present study, has given rise to a great deal of discussion which is not closed today (see Ewald). His opinions the majority of psychiatric authors refused to accept. Nevertheless they were an important impulse toward the acknowledgment of the affective element in paranoid delusions, if only in a rather formal fashion, and played a part in the modern study of the milder psychopathic states allied to the major psychoses. The possibility of the formation of paranoid delusions in chronic hypomanic states to which Specht has drawn attention is the important part of his views in connection with the present study. The development of paranoid delusions on the foundation of a manic or hypomanic state has also been pointed out by Régis who has described a "chronic mania with secondary systematized delusions" occurring only in later age.

It has been seen that the investigations and discussions of chronic mania led in very different directions. Nitsche in 1910 on the basis of pertinent observations recognized the existence of

different chronic manic states. The differences in their symptoms and course he referred to the multiformity of the manic symptom complex itself. There are certain general characteristics of the chronic manic conditions which he enumerates: reduction of motor excitement, querulant shades of mood (emphasized also by Specht), the predominance of grandiose ideas over persecutory ideas in case of delusion formation, absence of systematisation of delusions, dependence of content on fluctuations of affect, variations in intensity of the manic symptoms, frequently positive family history.

He distinguishes four groups of conditions falling broadly under the group of chronic mania. In the first group there exists a hypomanic state with mild fluctuations in the intensity of the phenomena, beginning in youth (*original hypomania*). In the second group are patients originally normal and of "sanguine temperament" who at about the age of fifty show a hypomanic psychosis which may develop into a manic state and become chronic. These cases he calls *progressive manic constitution*. As a third group he distinguishes conditions in which there develops a long hypomanic phase in a circular manic-depressive psychosis. The onset of the chronic manic phase is in this group also in more mature age (at about the age of forty years). He speaks of this group as *circular chronic hypomania*. In the fourth group he places cases of *constitutional excitement*, patients showing signs of manic symptoms but of the mildest form and not of a psychotic nature. However, even in this fourth group the condition may clear up and "therefore is a psychosis."

Nitsche's survey helped to clarify the general problem. It was, as he intended, a contribution to the study of morbid personalities. It is, however, misleading to include clinically in the group of chronic mania, characterized by the profound behavior disorder of the manic reaction, individuals who have only a lifelong tendency to hypomanic behavior. Kraepelin had spoken of constitutional excitement rather than chronic mania in the seventh edition of his textbook. In the eighth edition he followed Nitsche in discussing a manic constitutional disposition which may or may not lead later on to hypomanic or manic reactions.

The conception of chronic mania had thus been limited in the course of development by separation of the obvious states of dementia of various clinical types having only episodic associations with excitements, and the mild states of overactivity belonging to

the group of more ingrained constitutional tendencies of psychopathic personalities (*constitutional mania*.) Urstein stands for the opinion that schizophrenic psychoses can continue for years under the picture of manic-depressive psychosis. He really reverts, as Ritterhaus and others have pointed out, to the "secondary dementia" of the older authors. Secondary dementia is one of the time honored conceptions which was given up completely in the urge toward a simple diagnostic formula—that of dementia præcox versus manic-depressive psychosis. It means coming close to the old conception of "secondary dementia" if the question is asked: do chronic manic reactions show evidence of deterioration, and perhaps in sufficiently distinct fashion to warrant the separate designation "chronic mania." Cases of severe manic excitement lasting a number of years, like those first described by Schott, are very rare according to most authors. Well described cases are certainly very rare in the literature. Kirby first drew attention to such cases in this country in a paper on "chronic forms of manic-depressive insanity." According to him the circular and alternating cases most frequently become chronic. He describes cases in which the typical manic-depressive picture undergoes a "transformation," the symptoms becoming ill defined so that the condition has no similarity to the manic-depressive psychosis on the surface. In one case of a chronic manic condition which developed after the sixth attack of a manic reaction, the patient remained in a state of indifference for seven years. When interviewed she livened up, was flippant and showed some distractibility. In another case in which there had been five previous short attacks, the condition was atypical from the beginning and lasted six years. The mood was one of indifference with tendency to outbursts of laughter. When interviewed the patient showed indications of distractibility. There were also present at times peculiar muscular tensions without such behavior being clearly connected with any mood change. In view of the fact that circular cases tend much more than simple manic or depressive reactions to a chronic course, the possibility of "mixed states," namely of admixtures in the direction of depressive underactivity, cannot easily be ruled out. Following Kirby, Sanger Brown II has given descriptions of similar cases. He finds in his chronic cases exceptionally severe types of manic-depressive reaction and in most instances individuals predis-



posed by heredity and constitutional make-up. In the more severe cases there is a certain degree of deterioration, marked by a narrowing of interests and activities, comparable to the dilapidation at times seen in epileptics. Sanger Brown suggests that a study of precipitating factors might be of importance.

More recently Laignel-Lavastine and Vinchon have attempted to give the outline of a separate clinical picture as chronic mania. This attempt is based on the clinical study by Renault. According to their formulation there are all the outspoken signs of a manic attack, but the excitement is of long duration. There may also appear delusional ideas of an imaginative nature. According to these authors there is a diminution of psychic functions, but it does not increase and one is astonished at the integrity of the intelligence after an evolution of twenty or more years. The authors believe that in the dementia which has been found in chronic manic conditions, age may play a part. They believe that the separate conception of chronic mania should be retained. There are all sorts of transitions and not all individuals of hypomanic constitution become chronic manics. Hamel and Vernet, who accept the conception of Laignel-Lavastine, have collected among the patients actually in the asylum of Maréville those who at some time had been diagnosed chronic mania. Of these they have singled out eight conforming to their clinical conception of chronic mania. They believe that the condition is very rare. They give the following schematic outline of an observation type of chronic mania:

1. Onset at ripe age with definite predominance in women.
2. General symptoms of mania in mitigated form.
  - a. Mild psychomotor excitement.
  - b. Intellectual excitement more pronounced, of hypomanic type, and continued despite periods of mitigation and exacerbation.
  - c. Habitual euphoria.
3. Conservation of affective responses, more or less altered or deviating.
4. Absence of intellectual weakness.
5. Frequent presence of non-systematized unstable delusional ideas, constituting periodically real delusional flurries.

Surveying briefly the current opinions concerning chronic manic conditions, the majority of authors believe that acute manic condi-

tions can become chronic but that this occurrence is very rare. As regards the outcome of these cases very little is known concretely. There is little agreement as to the description of typical clinical states. In current psychiatric practice there is a tendency to regard manic excitements of prolonged duration as being allied to schizophrenic conditions. Throughout, the very small number of fully described cases is apparent. According to Reichardt, "chronic" mania and melancholia are relatively very rare. Kraepelin also finds conditions of chronic mania very rare. He gives the description of a case of almost six years' duration. According to him, the acute manic disorder continues in mitigated form. The patients remain erratic (*sprunghaft*) in thinking and unable to perform prolonged orderly mental work. The mood is changing, usually elated without further-reaching interests. The patients tend to talk and write excessively and are overactive, but without any well-planned performance and without endurance. Meyer and Kirby in their "Notes of clinics in psychopathology" describe a case of chronic mania under the heading: "Manic state of atypical course." The onset was at the age of forty-four. They summarize the case as follows: "An excitement which has lasted with but few rather sudden periods of depression or real intermission for seven years. An excitement bubbling over without any long-headed leading interests; moderate changeability of mood; the special topics in the stream of thought frequently determined by sound suggestions of words, by casual impressions which would be suppressed in the normal state; an irresistible elaboration of what presents itself; no consistent trend of abnormal notions; sufficient grasp to permit of correct orientation. No evidence of hallucinations or marks of deterioration. Empirically to be considered somewhat unfavorable on account of the rapid changes, and the great discrepancy between the disorder of activity and the disorder of talk."

According to Rehm, the mixed states tend more to chronicity; chronic manic forms are rare. Neither in precipitating factors nor in heredity does he find the reason for the chronicity of certain manic-depressive states. He mentions that several manic cases among his material became chronic very late in life. Deron believes in the existence of very rare cases of typical chronic mania which already show signs of transition to chronicity three months after

the beginning of the attack (*manie chronique d'emblée*). For the rest, omitting cases of "delicate diagnosis," he states that the majority of facts labelled chronic mania refer to the transition from acute manic attacks to chronicity without any sign of deterioration (*démence*). He wishes to make a distinction between chronic mania and prolonged mania. In the case which he gives as an example he admits that it is not possible to decide to which of the two groups the patient belongs. It is interesting that the patient is intellectually debile. Henderson and Gillespie speak of "true chronic mania" and wish to reserve the term "for cases showing excitement of a manic nature uninterruptedly over an indefinite number of years." According to them the symptomatology does not differ in any way from the cases of acute mania. The majority of the cases have the onset after the age of forty. They refer to similar cases described by Schott, von Hösslin and Kraepelin. They are of the opinion that the picture of chronic mania has been complicated by those authors who confuse true chronic manic states with chronic alternating states (Rehm, Kirby, Stransky, Sanger Brown). They describe four cases. The first one continued in a manic excitement for five years and was in the same state at the time of writing. The second case, which is only very briefly given, lasted for twenty-eight years. The third case lasted three years until death from pneumonia. The fourth case was in an excitement for twenty-two years; but in her case the diagnosis of an essentially manic state is not beyond doubt on account of evidence of auditory hallucinations; the existence of grotesque positions, contortions and grimaces, and the lack of productivity. According to White, "a very few cases, usually late in the history of the disease, do not recover in the usual length of time from their maniacal period. They pass into a condition of chronic excitement—chronic mania—which may in exceptional cases last several years. The exact nature of these cases is not understood."

In the present study seven cases of prolonged manic excitement with durations of from five to eleven years are reported. For several reasons it seemed advisable to give the cases in more detail than is permitted in a brief summary. Pertinent observations and case material are very scarce in the literature. In these cases the diagnosis of chronic mania was made after a survey of all the available facts; but at some stage of their career the majority of

these patients had a different diagnosis. Therefore a brief record of the concrete facts of the cases seemed preferable to a symptomatological summing-up or to mere references.

CASE. NO. 1.—*Summary. Business man. Chronic manic excitement of twelve years duration terminated by death at the age of seventy. Onset at the age of fifty-eight. No previous attacks. Hyperthymic personality shown by pressure of activity, great sociability, lack of fatigue, good humor. At fifty hypomanic overtalkativeness about insurance hobby. Typical manic reaction at fifty-eight with physical overactivity less marked and mental productivity showing evidence of poor sense of values; delusions of persecution more talked about than carried out; increasing irritability, the reaction simmering down to one of less overactivity and more euphoria, with grandiose ideas apparently in a jocular setting. Death from cardiac decompensation. (Case typical of "progressive manic constitution" (Nitsche).)*

A married man, age sixty-three was admitted to the clinic for "rest and diagnosis."

The mother of the patient suffered from a recurrent psychosis. The first attack occurred during the puerperium, after the birth of her second child, at between forty and forty-five years of age. The second attack began late in life and lasted until her death at the age of eighty. She died following a paralytic stroke. The patient's father died when the patient was eight years old.

The patient was a healthy boy. There was no evidence of neurotic traits in childhood. He went to school early. At the age of twelve he ran away from school and worked on a farm, but finding the farm work too hard he later learned furniture-making and supported himself in that way. At the age of twenty-two, when the special kind of furniture ornamentation which he was doing went out of fashion, he worked in the insurance business. He married at the age of twenty. There were five children. His physical health was always good except, for three attacks of inflammatory rheumatism at the ages of twenty-three, thirty-three and thirty-four. There was no recurrence. At the age of thirty-five he had typhoid fever and was in bed for three months.

The patient was always a very active and independent person. He supported himself early and married early. In his work he was energetic, resourceful and successful. His circle of friends and acquaintances was very wide. He had an extremely active and intensive mind—"to an eccentricity." He was always noted as having a keen sense of humor and being full of fun. His energy and activity are witnessed by the fact that he took no vacation from the age of thirteen until his retirement from business at the age of fifty-eight. There was one exception at the age of fifty when he took a strenuous six weeks' trip to Europe, visiting France, England, Germany, Austria, Italy. He enjoyed his business work as a recreation.

At the age of forty-eight the patient felt that the insurance business was a "bore." Two years later he handed in his resignation from the insurance

business and after that had many complicated investments. He took up the study of insurance as a hobby until the age of fifty-nine when his resignation was accepted.

After adopting the study of insurance as a hobby the patient got tremendously interested in the subject and talked about it a great deal. At about the age of fifty-eight his overtalkativeness became very conspicuous, and was recognized as pathological. But apparently it had been going on for several years. He would drop into a man's office, take no hint, but continue talking. Whatever a conversation started with, he would end it with religion and insurance. At the club people left when he came. Casual visitors to his daughter he entertained incessantly on insurance. He attended church regularly but got up and talked at meetings at inopportune moments, even in the middle of a sermon. His many friends little by little dropped away from him. He embarked on wild schemes and wrote innumerable letters. His opinion of himself was exaggerated and he would become furious when anyone contradicted him. People hated to cross him, saying "his ego is his worst fault." When his family wanted to restrain him he would get angry, so he went to church alone. He visited people at unearthly hours.

At the age of sixty-three he twice got mixed up in financial matters in two different states and when he became more and more involved and restless his family took him home. In the summer of the same year he was admitted to the Phipps Clinic. He was restless, moved his hands in gestures, picked at his clothes. Stream of talk was fluent, emphatic, circumstantial and with frequent punning and some flight of ideas. His mood was "buoyant." He was especially preoccupied with insurance schemes. He felt bitter towards a physician whom he held responsible for his loss of potentia two years before. Orientation and memory were good. He lacked insight and showed poor judgment. During the examination he tended to reverse the rôles and asked questions of the examining physician.

Physical examination showed arteriosclerosis involving the aortic valves with slight aortic insufficiency. His best weight was 200 pounds; his weight on admission was 143 pounds. There had been gradual loss of weight for two or three years prior to admission.

The patient continued to be overtalkative, especially about insurance. He spent most of his time writing letters in a peculiar mixture of script and printing. He wrote business letters on full-page colored illustrations from magazines, seeing nothing incongruous in that. In speech and writing he frequently showed flight of ideas and jokes and punning of a rather silly kind. He was always very discursive and had a self-important attitude.

On parole he ordered from a photographer a thousand postcard reproductions of the decoration he had made on a tray in occupational therapy. He also wanted to buy out the photographer's shop, offering to pay the man and his wife a good salary.

There was evidence of delusional ideas. These referred to big business deals, one having to do with the printing of Bibles and the other with oil lands. They referred to very complicated and somewhat fantastic transactions. The patient felt that a conspiracy existed and that there was an effort

to get money out of him and also "subterranean influences that tried to make you believe I'm insane." "I mean it's part of the conspiracy."

After a stay of two months the patient was discharged in accordance with his wish, having gained very little insight but satisfied with the hospital and treatment. The following year he was readmitted for a period of two weeks. The mental picture was unchanged. There was mild elation, occasional flight of ideas and overtalkativeness. The stream of speech was digressive; in repeating the test story the patient made many additions. His mood he described as "never better." He wrote many letters showing flight of ideas and play on words, intelligible only to himself.

In the following year the patient was admitted to a private sanitarium where he remained until his death six years later. His behavior there was mainly characterized by his interminable talk interspersed with many shrewd and pointed remarks. His speech was emphatic and dramatic. His productivity became increasingly monotonous and restricted. His favorite occupation was drawing pictures with colored crayons, printing meaningless phrases and cutting out pictures and pasting them on paper. There were frequent explosions of wrath of a "stagey" kind from which he calmed down quickly. He was distractible, showed flight of ideas, and was rambling in conversation. He evolved great plans for having the sanitarium reorganized, sold on an insurance basis, etc., and often talked of this plan. He had similar plans during his stay at the Johns Hopkins Hospital. He was grandiose in bearing, restless, usually pleasant but often irritable. Memory and orientation were not impaired. He did not keep good track of the time. He gave a bizarre account of the test story which had little to do with the real story. He grew increasingly irritable. Mild pressure of activity was noted. He was willful and overbearing, extremely sociable with those he liked and regarding others as "insects." He showed euphoria, his judgment was regarded as poor and there was some suggestion of paranoid ideas. During the last two years he became more irritable and "eccentric." He talked a great deal about the idea that he had been appointed federal judge. There was always, however, an intimation that this whole affair, apparently delusional, was to him in fact only a joke. He said once, "They say that I am crazy. Well then, I have to act as if I am."

His weight since the first admission to the Hopkins Hospital had continued to decrease. Suffering from some cardiac decompensation he was taken home by his relatives and died soon after.

*CASE NO. 2.—Summary. Single woman of thirty-seven. Chronic manic excitement of six and a half years duration ending in death by fractured skull as result of conflict with another patient. No history of psychoses in ancestry. No previous attack. Intellectually very much restricted, sociable, buoyant personality. Late puberty, homosexual tendencies. Excitement of severe type with sexual content. Course characterized by increasing tendency to alternations of very severe excitement with much quieter intervals.*

A single woman of thirty-seven, with no occupation, was admitted to the clinic on account of a state of excitement.



The patient's father and mother were in good health at the ages of seventy-two and sixty-six. The father was described as optimistic and cheerful. Longevity was a family trait on the paternal side.

The patient was a sickly baby with uneven physical development. She had rickets and had to wear braces on her legs from the age of three to the age of six. She went to school until she was thirteen but learned very badly. She was then tutored at home with little progress. Puberty was delayed, menarche occurring at the age of seventeen. The patient's life was very uneventful. She stayed at home keeping house for her parents and was a good cook. She once tried to earn money by canvassing but stopped because of her weak feet.

The patient was intellectually very much restricted, evidently pathologically retarded. She was shielded by her parents and somewhat spoiled. At times she was irritable. She was of a jolly disposition and got easily excited. She had a frank attitude and no tendency to brood. No variations in her mood and behavior was noticed up to the time of her present illness. She was reserved with men but made friends with women. At the age of six she was sexually stimulated by a man visiting her home. She was frightened but told no one. There were episodic periods of masturbation throughout childhood which worried her greatly. Obscene stories current among her schoolmates were so upsetting to her that she shammed complete ignorance of all sex things to protect herself from them. The first onset of menstruation at seventeen terrified her, since she was uninformed. After puberty she sometimes had periods of definite sex tension. She persistently shunned men and the idea of marriage. She was very much devoted to an unmarried woman neighbor who was seven years older and had withstood a perennial courtship of twenty years' duration. The patient had a tendency to "fall in love" with women. She liked children and "mothered" the neighborhood.

Apparently for a considerable time before the onset of the psychosis the patient had felt increasingly futile and restless, regretted that she had not married and had considerable sex tension. She had been attracted to a man of social status lower than herself who had paid her attentions. She had become greatly frightened that he might assault her, a fear which apparently was a projection of her own sex desire and arousal. Immediately preceding the breakdown there was a period of distressing dreams of intercourse, with insomnia and dread of sleep. Two or three weeks before admission the patient became very sensitive to criticism and cried readily, especially at family prayers. She was restless and complained that she could not keep still. One evening she was found reading a newspaper clipping advertising people who were nervous to secure sleep by dismissing all special thoughts from the mind and looking at a light "as though life depended on it." The following day she became excited and overactive, talking about "finding the light."

Admitted to the Phipps Clinic she was constantly jumping around, singing, screaming, punning and rhyming. Stream of talk showed typical flight of ideas and distractibility. She was in an elated mood. The content of her talk was often of sexual nature, "I could kiss her—it was the eleventh

time." The intellectual resources of the patient could not be tested at that time as it was not possible to fix her attention. Two months later when she was a little more quiet a Binet-Simon test was attempted in which she passed the test of the eleven year level. Physical examination gave no significant findings.

The patient continued severely excited for about two months with some fluctuations. She was frequently destructive and erotic and very restless at night. She talked of "hallucinatory" experiences of a panoramic character. When sitting in her room she watched the activity of imaginary friends, usually in the trees outside. She talked about being filled with electricity and about being assaulted at night "to save a man's sister." Occasionally she had outbursts of irritability. She made very frank allusions to homosexual practices evidently relating to the woman friend. There were brief weeping spells, *e. g.*, when talking about her mother. In her overactivity she was careless and playful with her excreta.

After two months during a period of remission in her excitement she talked about her instinctive difficulties and the upsetting factor before the attack. (See onset of present illness.) She talked about the content of her excitement in which she felt she was being subjected to intercourse to save others, especially the woman friend to whom she was so much devoted. During this period her weight increased, later to drop again. She soon became severely excited, coincident with the menstrual period, masturbated, rhymed and sang as previously. After a stay of five months she was sent to a State Hospital. She was still very much excited and had at times become more impulsive, combative and destructive—sometimes almost unmanageable. With all this she was facetious, rhyming, punning and exposing herself. The patient remained in the State Hospital for six years, until her death, so that the whole attack lasted six and a half years. The manic excitement continued during that time, taking more and more the course of periods of very severe excitement with very much quieter intervals. These intervals apparently became longer, lasting several months, and the excitements several weeks. During the excitements she was destructive and very violent. She never showed any symptoms of projection, hallucinations, or delusions. At the age of forty-four she was in a scramble with another patient and sustained a skull fracture as the result of which she died.

*CASE No. 3.—Summary. Unmarried engineer of forty-six. Two periods of prolonged manic excitement, each of six years duration, with subsequent recovery. No history of psychosis in ascendants. Total number of manic attacks eight. Chronic attacks preceded by three previous attacks. Onset of first attack at age of twenty-nine, following a love affair in which the patient considered engagement. Onset of chronic attacks at the age of thirty-four and forty. Sociable, very gifted, ambitious personality. Attacks characterized by much productivity with religious and erotic content, and tendency to symbolism. In attacks, recurrent suggestion of paranoid ideas with no elaboration. After recovery from second chronic condition three further shorter attacks.*

An unmarried engineer, forty-six years old, was admitted to the hospital for diagnostic study of a prolonged psychosis with excitement.

There was no history of psychosis in the ascendants. The maternal grandmother, who was deaf, was described as a little eccentric. The father was a public-spirited successful man, with a very wide acquaintance in all walks of life.

The patient was the youngest of six children. He learned well in school and graduated from high school at the age of nineteen. Three brothers and a brother-in-law had professional careers. The patient decided to become an engineer (like his brother-in-law). His father having died, he had to partly support himself by outside work while in college. He had always been very much interested in music and after his college course was undecided as to whether to take up music as a life job. He felt later that his older brother had influenced him against his own judgment to take up engineering. After two years work in a firm he went abroad to study, against the advice of his friends and family. He failed in one branch of an examination abroad due to his refusal to work himself up in required things which were distasteful to him, and which to him seemed insignificant. He returned home after two years. He showed unusual capacity if not genius in his work and won an important international prize. He also won other distinctions at home.

From boyhood on he was very popular, a good mixer and made friends quickly. As a boy he was apt to lead in many stunts and tricks. As a child he was terrified by thunderstorms. The keynote of his life was that he had the habit of acting independently. He was ambitious in regard to his work and of a jolly and optimistic disposition.

At the age of twenty-three or twenty-four he had intercourse for the first time, for which he was remorseful. He told his mother, acknowledging the fault and telling her he could not bear to have her think he was what he was not. He is said also to have confessed homosexual experiences.

The patient was admitted to the Phipps Clinic in his fifth attack of excitement, the preceding attacks being three short ones and one long one of six years' duration. A few years prior to the onset of his psychosis he did a great deal of general reading of Emerson and other philosophical writers, having formerly been entirely uninterested in reading serious books. In the year when he was twenty-nine he fell in love with a young woman whom he had met abroad. She gave him some encouragement but they never became engaged. Preceding the onset he worked in an important competition. His work was said to be of exceptional merit but not holding closely enough to the program. He unexpectedly visited his brother in his home town and told him about his disappointment in love—that he had been too precipitate, but that he hoped he would yet be successful. At lunch he launched out with a vehement invective against Christian Science, branding it as a "deadly poison." He left in an excited condition. Soon after he told a friend that he was going to drop his work and preach against Christian Science. The friend was able to persuade him very quickly against any such course. He afterwards talked about having special revelations and

living by divine suggestion. A little relative of his having been circumcized, he said this was a message of consecration to him and a divine call to him to give up everything and do some great work. He disappeared for two days and wandered barefoot and hatless in the fields. To this he referred afterwards as "walking the thorny road." He was found in jail in a forlorn and pitiable state, greatly confused. He was very restless at night. His mood changed to one of exaltation in which everything appeared funny. He refused to eat meat and talked about healing an aged friend on her death bed. Sent to a psychiatric hospital, he showed periods of exaltation alternating with depression. He was overactive, talked about the house doctors insulting the nurses, said he was acting by suggestion, following the line of least resistance, following the wind, etc. There was a rapid recovery after one month.

After his discharge he did not get full insight and thought his brother had not done the right thing in sending him to the hospital. He resumed work, opening his own office. During the next year he acquired syphilis.

Two years after recovery from the first attack he wrote queer letters home, discussing prostitution and full of squibs and puns, some of them smutty in character. He changed his job several times. He talked about love being a physical thing like electricity. (He had had feelings of electricity during his first attack.) Gradually his restlessness improved but three years after his first attack he was admitted in a state of overactivity and "confusion" to a psychiatric hospital, from which he was discharged after fifteen days because he was unwilling to stay.

He then took up his work again, but had disagreements with the firm with which he was working. He indicated in letters that he was disappointed but attempted to laugh it off.

Four years after recovery from his first attack he again became overactive, walking at night in the pouring rain. He was very restless, following "suggestions," saying he changed from day to day. He became more irritable, restless and impulsive; once, for instance, he jumped in the water with all his clothes on. He preached to strangers, talked to people on the street and went out on the street at night clad only in pajamas. He burned some good engineering plans and a check which his brother had given him. Admitted to the state hospital, he was dissatisfied, cross, sarcastic, showed little insight. He was discharged after six months. He resumed work for a year, when he again became overactive, sarcastic, acted peculiarly and seemed happy, with silly laughter. He was unable to hold a connected conversation. He was sent to a state hospital and from there removed to a private sanitarium. This attack, beginning at the age of thirty-three, lasted for six years. In the sanitarium he was accessible and an analysis was undertaken. A marked feeling of self-depreciation was brought out. He said that he had the feeling that he was hypnotized. He spoke of his excitement as having been in "a sort of dream or trance." As to his acting by suggestion and being guided by the direction of the wind and other things, he said "It was an extremely agreeable and real experience." He talked about having had a sort of idea of being married to the girl to whom he

had been devoted, although he knew of her marriage. He talked of hearing voices, but "more like the way music runs through your head." The analysis was considered as showing his marked tendency to symbolism with a strained erotic motive back of it. The course of the illness was marked by considerable irritability about the injustice of being detained. He was discharged with the diagnosis: allied to dementia præcox. For six months he lived outside working, but without insight and not stable. Then he had to be admitted again to a state hospital, where he was erratic, at times noisy, abusive, sarcastic and destructive. At other times he seemed more well-balanced, could be given parole. He was profane and abusive in language, was expansive and did peculiar things to attract attention. He had received anti-luetic treatment and his blood Wassermann was negative. After a total duration of six years he was discharged with a diagnosis of paranoid dementia præcox. He was considered recovered to a great extent.

There followed a year in which the patient was apparently recovered and in good condition. He took up work and won a special award in an important international competition, although working with the handicap of having no reference library.

After a year he became again overactive and excitable, was admitted to the state hospital, but soon discharged again only to have to be brought back by force after a few days. He stayed in the hospital for five years with only brief interruptions of several days on parole. His behavior was characterized in the main by "manic-like" activity alternating with briefer periods of quietness and seclusiveness. In the quieter periods he would sometimes refuse spontaneous utterances, be indifferent and remain to himself. When excited, he sang loudly, used profane language, made many unreasonable requests, was at times destructive. He had outbursts of irritability and anger. At times he could settle down to good professional work. After a very brief parole period, he was brought back excited and was admitted, after he had assaulted his brother. He developed an antagonism to this brother, and uttered persecutory ideas concerning him. In his elation he showed grandiose ideas, saying the state owed him a large amount of money for work. He composed much obscene poetry. At times he was very sociable and agreeable, only to become quickly overtalkative, hyperactive and grandiose, boasting of his insanity which he called "a higher grade of sanity—to be treated as such." During these years he had worked out plans for a big project, which though of very great merit in many respects were from a practical point of view grandiose and chimerical.

Transferred to the Phipps Clinic for diagnostic study, he was elated, overactive, overtalkative, showed flight of ideas, sound associations, and frequent punning. He talked in a loud voice and was very distractible. He masturbated and there was much obscene sex talk. He wrote a great deal, juggling with words, and was expansive, interfering in the conversations of others. His mood was usually one of elation but with rapid shifts. The psychosis seemed to grow more severe; then after a stay of about three months he suddenly quieted down and recovered.

After his discharge he was seen at frequent intervals. He had at first a slight tendency to be low-spirited, but became well-poised and seemed perfectly well. He did excellent work and saved money. He planned carefully for his future. He was very neat in appearance.

Seven months after his discharge, however, he lost interest in work, became again facetious and punning and wrote foolish letters. He accompanied a girl to a Christian Science meeting and interrupted her reading by suddenly standing up and saying she was all wrong. (Compare similarity of circumstances with onset of previous attacks.) Nine months after recovery from the previous attack he was again admitted to the clinic in a manic attack. His behavior was similar to that on his previous admission, characterized mainly by overactivity, flight of ideas, overtalkativeness and joking. He recovered after a little more than three months.

He was again in good condition and worked.

After a year and seven months he was again admitted in a manic attack very similar to the previous ones, from which he recovered after four months.

Following this attack he was somewhat depressed. His insight was incomplete. He felt that his brother and the admitting physician should not have put him in the hospital, but should have treated him outside. He said during the attack he was depressed (*sic!*) every day about being detained. The depressive mood cleared up and the patient was active and well.

About seven months later he again became overactive and facetious, sang hymns at an eating place and quarrelled with a fruit vendor on the street. He described his mood as "Scherzo." The excitement growing worse, he had again to be admitted to a private sanitarium. He completely recovered from this attack and returned to his work.

CASE NO. 4.—*Summary. Unmarried housewife of fifty-one. Chronic manic excitement of almost seven years' duration, still continuing. "Cyclothymic" personality, with "two dispositions" which alternated in periods of several weeks with persisting push of activity in both phases. Intellectually very much restricted. Five previous attacks of excitement. First attack at age of fourteen necessitating stay in State Hospital. Onset of chronic attack at fifty-one. Precipitating situation, death of mother, from whom she had been inseparable, and anniversary of death of father. Severe manic excitement with flight of ideas, overactivity and elation. Continuously talking with disconnected stream of speech and endless somewhat automatic repetitions. Exacerbations of violent combative behavior, but on the whole friendly and sociable attitude. Suggestion of paranoid ideas in jocular setting. Activities became slightly reduced but no evidence of deterioration.*

An unmarried woman of fifty-one years was admitted to the hospital on account of "noisiness and talkativeness."

There were no psychoses in the family history. On her mother's side the patient was descended from a man very prominent in American arts of the nineteenth century.

There was nothing unusual about her early development. She went to school from four to fourteen, when she left the first year high school.



Her life was very uneventful. She lived at home with her parents who were Christian Scientists and to whom she was very much devoted. The patient and her mother were inseparable.

The patient had many friends and was popular. It was recognized that she had "two dispositions." Each persisted for a matter of weeks. For a time she would be a meticulously neat housekeeper, rather morose, disinclined to go out visiting or to receive friends; at other times she was very cheerful, read omnivorously, slept poorly, was a sloppy, slap-dash house-keeper and was extremely sociable. She was very set in her ways—"pig-headed"—but very cheerful and good-hearted. She took correction poorly although always good natured.

The patient was admitted to the Phipps Clinic in the midst of what was apparently her sixth attack. At the age of fourteen she had a condition of overtalkativeness, excitement and insomnia which necessitated sending her to a state hospital for five months. It was said that the condition was precipitated by fright after the bite of a dog. In later attacks she barked like a dog.

The second excitement occurred at the age of twenty-two when she was again confined to a hospital for five months. The diagnosis was acute mania.

There were two milder attacks between the ages of twenty-two and twenty-eight during which she was cared for at home.

At the age of twenty-eight after falling in the street without serious injury the patient again became overactive. She was sent to a private sanitarium where she was restless, overtalkative and amorous. She suffered from insomnia and loss of weight and appetite. For a short period she seemed depressed and wept, then showed increasing overactivity, was destructive and imitated almost constantly the bark of a dog. She made one suicidal attempt and became more quiet, soon to be again overactive, noisy, throwing herself on the floor, "writing a story" (accumulation of disconnected words). There was another quieter period, followed by increased disturbance and again a quieter period, during which she was discharged. Two days later she had to be readmitted to a state hospital on account of excitement and restlessness. She stayed there for six months and was discharged recovered with a diagnosis of recurrent mania. The fifth attack had lasted a little over a year.

Then the patient lived at home for twenty-two years with no breakdown but with the marked cyclic variations in her behavior described above in her personality. During this time she gave up Methodism and joined Christian Science. On her father's death in 1920 her behavior was not unusual. A relative said of her that she had the mentality of a ten year old child.

The patient's mother died in 1921. The patient was deeply depressed and upset a great deal for six weeks, until the anniversary of her father's death, when she became restless at night, excited, noisy and overtalkative, (talked about the Kaiser destroying America). She was sent successively to two Christian Science and one New Thought Sanitarium, and then admitted to the Phipps Clinic. There she radiated good humor, laughed easily, talked incessantly and showed flight of ideas. She was not very distractible,

but made puns and rhymes. She showed graphorrhea. A typical example of her writing is "Hospital—ear-nose and throat—eyes eyes eyes, caught her eyes, cauterize." Orientation, memory and general information were excellent although she multiplied events and threw in dates. She had no insight.

Physical examination showed a blood pressure of 160/100 and very marked obesity (222 pounds with a height of five feet and two inches).

Her mood was usually elated. She sang, wore flowers in her hair and bits of colored wool tied to her buttons. On the anniversary of her father's death she was low-spirited and wept. She talked continuously when alone or in company. The content was autobiographical, with endless literary and historical allusions. She showed typical flight of ideas, rhyming and punning, especially in writing, of which she did a great deal. Sometimes she wrote fairly well connected letters to relatives and friends, but at other times she scribbled and scrambled words in a quite unintelligible way. She knitted, often mixing different colors of wool together. She was friendly and interested in others. Her talk varied from fairly well connected conversation to a very rapid stream of hardly understandable words and syllables. There were occasional outbursts of anger when she threatened to kill somebody. In very brief periods of depression she would talk about her parents in the graveyard, about a feeling of emptiness and about being poisoned. Almost every night she woke up and talked for several hours with a kind of automatic repetition.

After six months she was transferred to a state hospital where she remained to the time of writing, that is, for five years and five months, making the duration of the whole attack almost seven years. There she continued to show great psychomotor activity followed by quieter periods lasting several weeks. At times she was antagonistic and combative but on the whole she was friendly toward other patients and generous with things brought by her family. She began singing every morning at six o'clock. She said she was singing "Jesus, lover of my soul" or "Tipperary," etc., but frequently only a jargon could be made out—"on the coast of laggy-knack," etc. During the day she kept up her disconnected soliloquy. She joined in work after her own fashion, knotting loosely together bright colored strands of raffia and ribbons, ties and buttons, old rags and toilet-paper bows. She developed paranoid ideas, talking about the nurse turning gas on her which affected her heart. She pointed to a spot on the ceiling where the gas came from. These delusional ideas were more in a setting of jocular make-believe—for instance, she said, "I died. Yes I did. They poisoned me." When asked about it she would say, "I know I was. You don't understand my lingo. I'm good and alive today, so done my dad. That's her husband," etc., etc. After a year an attempt was made to have her work in the ward dining-room, where she was unreliable, sang and shouted in the midst of tasks, and became irritable. She was especially noisy early in the morning. She was tidy in her habits but careless of her appearance. Her continuous speech with automatic repetitions was considered as verbigeration. When one talked to her she asked profanely to be left alone. She continued to make all sorts of useless articles,

which she called hats, etc. Visits from relatives excited her greatly. At times she was destructive of her clothing. There were periods of exacerbation when she was more violent and excited, screamed as loud as she could and threw chairs around. Transference to a different ward which pleased her caused a change in her behavior, in the direction of better adjustment. She did poor embroidery with the greatest pride, adding stitches indiscriminately. She continued decorating herself with little objects. She persisted throughout in a loud vehement stream of senseless syllables. At times she got more noisy, looked vicious, snarled and slammed doors, but never hurt anyone. On the whole the overactivity simmered down somewhat. She ceased going to entertainments, preferring sewing and looking at pictures. Though careless with dress and hair, she continued to have tidy habits. Her appetite was good but her weight decreased under a modification of diet. She gave irrelevant and wrong replies to questions but her memory, orientation and intellectual facilities did not seem to be impaired. It was felt that she suffered some "mental deterioration" but there had been apparently very little change in the reaction since the beginning of the chronic attack. She was still ill at the time of writing. She was not quite so noisy, but kept up the same stream of language as before. A recent characteristic utterance was: "If you want to see a leg show all you have to do is go to hell."

CASE No. 5.—Physician, age fifty-two. Chronic manic excitement of five years' duration, ending in recovery. Family history incompletely known. No previous attacks. Onset of chronic attack at fifty. Active sociable personality with tendency to overtalkativeness. Precipitating factors of chronic attack: affair with a woman and second marriage after first wife's death. Manic excitement characterized by playfulness, great overactivity, outbursts of anger, speech in disconnected sentences with rhyming. Paranoid delusions during the onset of the attack not elaborated and soon given up. Recovery from chronic attack, followed four years later by a similar manic attack of less than one year's duration. Again recovery and return to work.

A physician, fifty-two years old, was admitted to the hospital on account of a state of excitement.

The family history is not sufficiently known. The mother of the patient was "very nervous."

Nothing unusual is recorded of his early childhood. He learned well in school and graduated with honors from medical college. Later he became a successful general practitioner. He married at thirty-five. Twelve years later his wife died and he married again about a year afterwards.

The patient was always very active. It was especially noted of him that he was apt to talk a great deal. He was always fond of people and had many friends.

The patient was admitted in his first manic attack. There had been no previous attacks. When the patient was forty-eight his first wife died. Soon after, he had an affair with another woman, which somewhat upset him, and about a year after his first wife's death he married his second wife. At the age of fifty there was a change in the patient's behavior. He became

vulgar and profane and talked about indecent things in front of female patients and his wife's friends. He swore at his mother. He became extravagant with money and careless of his personal appearance and practice. This all gradually increased. About two years later he was definitely overactive and scattered his interests in different directions. He got very much interested in politics, which he had scorned before, and wrote music and short stories. After having been attacked by a patient who struck him with a brick, the patient worried for several days. Then he became more active, more talkative and restless at night. He organized parades on election day. In a setting of general overactivity he developed paranoid delusions. He thought his sister was raising checks which she drew for her mother, talked about his wife being untrue to him and said derogatory things about his father. He became suspicious of his wife and family and talked about there being a plot against him.

Admitted to a private sanitarium he had grandiose delusions and talked about having been left a million dollars and not having to work any more. He accused his wife of infidelity. Admitted to the Phipps Clinic he was very excited and resistant. His physical condition was good. He was well-nourished; his weight decreased during his stay. He was very restless, playful, sang, sometimes picked up words spoken by others, but otherwise showed not much distractibility. There was a great deal of rhyming and silly versification. He was extremely vulgar and profane and his talk was usually not in full sentences but rather disconnected. He was very erotic with nurses, taking their hands and trying to kiss them, and making obscene proposals. Once he wept and seemed depressed for a few hours; but was singing again the same evening. At times he whistled merry tunes and then cried bitterly as if they were very affecting. He was untidy with his excreta. In angry moods he once attacked the physician and twice attacked the orderly. He said the physician was his son from the nurse. He draped his gown about him like a Roman toga, pirouetted about and did stately dances. In dramatic grandiose fashion he bowed, scraped and smiled and said, "You must not make fun of me." He was very noisy—singing, yelling, whistling and at times destructive. His mood throughout was one of elation, with playfulness, very brief episodes of depression, usually with sentimental content, and intense attacks of anger. With all his playfulness and irrelevant statements and replies, it was evident that he was clear, observing and well oriented as to his situation.

After a stay in the clinic of almost three months, the patient was transferred to another private sanitarium, where he stayed for three-quarters of a year. There he continued being very talkative, rambling, noisy, singing. Occasionally he was untidy in habits. After about six months he became a little quieter, sitting down to read the daily paper. However, he gained no insight and never permitted a physical examination. He was then transferred to a state hospital where he stayed for a year and a half. There he continued for about six months in his excitement with overactivity and overtalkativeness, refusing to stay in bed and pacing up and down in his bath-

robe toga. He would pick up different articles and kiss them. There was a continuous stream of speech, jerky irrelevant phrases considerably mixed with swear words. He was very difficult to manage and "made life miserable for everybody around him." He gradually quieted down more and more, later getting along smoothly until he was discharged as recovered with a diagnosis of manic excitement, after a total duration of five years.

The patient returned home, took up the practice of his profession and is said to have been well.

Four years after the recovery from his first attack he again became excited and embarked on unusual activities—in a way similar to his behavior at the onset of his first attack. Sent to a state hospital he was very overactive and disturbed, paced up and down, was careless in dress and appearance and showed destructive tendencies. He was elated and grimacing and peculiar mannerisms were noted. At times he acted like a child, calling himself "plain little John," and rolled bits of dirt in his hands and over his clothes and hair. It was noted that he failed in orientation questions as to time and person but was partially correct in answers as to orientation in place. He had no insight. Very gradually his excitement abated and after trial paroles he was discharged as recovered after a total duration of ten months.

More than three years after his discharge the patient was continuing to be in good health and practicing his profession. He had regained his normal weight.

CASE NO. 6.—*Summary. Business man, aged sixty. Chronic manic excitement of five years' duration ending with recovery. One sister depression with paranoid trends in later life. One brother "positive" in disposition. No record of previous attacks. One subsequent manic attack. Onset of chronic attack at age of sixty. Onset of later attack at age of sixty-eight. Alert, studious, sociable personality with push of activity. Conceit noticed in later years. Precipitating situation: retirement from business, worry about illness of wife. Mood change a year prior to onset; then development of acute psychosis with great overactivity, over-rating of self and poorly connected ideas of persecution. Severe excitement with fluctuations throughout the attack. Paranoid ideas frequently uttered but not elaborated. Recovery at the age of sixty-six followed by a recurrence of the same condition two years later.*

A married man of sixty, a retired business manager, was admitted to the hospital following an acute outbreak of excitement.

One sister of the patient developed a psychosis "at the menopause," with depression and paranoid delusions. She was extremely jealous of her husband, watched his every step and thought the slightest absence meant that he had made an appointment with some dissolute woman. She recovered and died at the age of seventy. One brother is described as "a man of exceedingly positive mental make-up as regards practically everything in which he takes an interest." The family tends to longevity.

The patient was the third of four children. There was little information about his early development. He was never robust. He started school

at nine and learned very well. At twenty-three he graduated from college. His health failed and since a tuberculous condition was feared he was sent to do out-of-door work (surveying). He later became the manager of an oil company from which position he retired two years before the onset of the present illness. He married at the age of twenty-seven. There were three children. His married life was "almost Utopian" although he had much worry on account of physical illness of his wife. He retired from business at the age of fifty-nine, having previously had worries over business affairs and escapades of his son at college.

He was very alert and studious from his boyhood on. He was an inveterate reader. He wrote himself, mainly essays and poetry on religious subjects. When he left college he obtained a list of books, the perusal of which would permit him to obtain an advanced degree. He spent twenty-five years reading these books, but when at the age of forty-eight he applied for the degree, he was told that the practice of granting advanced degrees without resident study had been discontinued many years before. He took this very much to heart and entered upon an extremely lengthy and voluminous correspondence with presidents of other universities, many lawyers and many of his friends. He also threatened the university with legal proceedings, but finally dropped the matter entirely. His disposition was always very kindly and gentle and he always thought the best of everyone. He was an "easy mark" for various "get-rich-quick" schemes. In later years a conceited attitude was noticed.

At the age of fifty-nine the patient was upset by his wife's condition. She suffered from diabetes, had become a drug addict (which the patient possibly did not know), and had developed marked ideas of jealousy concerning him. He became irritable, quick-tempered and caustic. After about a year he developed an acute psychotic condition while at a seaside resort. He said his wife did not love him any more, was after his money and had spies after him. He moved to another hotel but thought there that the hotel people were in the plot and that the door of his room was so constructed that chloroform could be poured in. He threatened the employees of the hotel. All this occurred in a setting of great overactivity, with the patient observing all sorts of things in his room, calling up people on the telephone and talking and arguing. Within a few days he developed a more and more grandiose attitude, compared himself to the "Big Men" of the country, was restless at night and kept his son running useless errands all night. He wanted to sue the hotel for bad treatment.

One week after the beginning of the attack he took his coat off on the street, dashed through the crowd and struggled with his son who tried to restrain him. He was very noisy and was chloroformed and taken to a sanitarium. Admitted to the Phipps Clinic from the sanitarium shortly afterwards he was very restless and excited. He showed some fear and at first violently objected to medical attention. The next morning he was cooperative and pleasant but changed suddenly to an attitude of suspicion of the physicians. His physical examination gave essentially negative findings. He showed flight of ideas. His mood was one of elation, with rapid changes



to anger and suspicion. After greeting a physician in a pleasant manner he would violently throw a cup at him. He was overtalkative; little distractibility was noted. He related at length the persecutions he underwent in the seaside resort. He was jocular and punning. There was great push of talk. Answering simple questions he would say, "I have ten thousand things I want to talk over. . . ." His stream of speech was nearly always profuse, facetious and flippant. He expressed extreme self-satisfaction and made many religious references. He accused the physicians of having tried to poison him and of having tried to kill him. At times this paranoid trend was uppermost. He was sometimes very combative. From a suspicious antagonistic attitude he would suddenly show a striking change: talking in witticisms, puns and jokes; making grandiose statements about his wealth, his ability as an all-round man, and the size of his library; drifting more and more into outspoken elation with flight of ideas. He continued in a state of excitement which gradually and with exacerbations became more severe. There was a great deal of sexual content in his talk with obscene and vulgar expressions and references to childhood episodes with a little girl and with boys. He was sexually very aggressive towards his nurse. A paranoid trend was frequently apparent. He would accuse the nurse of trying to manipulate him. He said enemies plotted against him, and people outside wanted to take him away. He said his wife had deserted him and was trying to get all his money. Once he tried to choke a nurse, explaining afterwards that she had tried to assault him. He was very restless at night. At times he was dangerously combative and destructive. In his excitement he tore off his clothes. Joviality and playfulness with jokes and laughing were a frequent trend throughout.

In the clinical evaluation, the exuberance throughout and the flight of ideas were regarded as the main features, and the case considered as an atypical manic attack. The patient was admitted successively to two private sanitariums. He continued being excited, noisy, untidy, resistive. He was unmanageable and very difficult to care for. His behavior throughout was described as manic and a diagnosis of acute mania was made in both hospitals. He was discharged as recovered at the age of sixty-six after a duration of five years. He remained well for a little over two years.

He then had a recurrence of the reaction very similar to the chronic attack and considered "plainly manic." He suffered from a hæmatoma auris. Again a paranoid trend was present. It was especially noticed of him that although he was seventy years old he showed no signs of deterioration.

*CASE No. 7.—Summary. Male student. Age twenty-seven. Chronic manic excitement of seven years' duration, still continuing. Depressive psychosis on maternal and paternal sides. One paternal uncle had a chronic circular psychosis followed by chronic depression; another committed suicide. Four previous attacks, three of elation and one of depression; tendency to circular course and to mixed symptoms. Onset of first attack at twenty-three. Onset of chronic attack at thirty-one. Neurotic tendencies in youth. Taken out of school at eight for one year on account of nervousness and fear. Emo-*

*tionally immature, unstable, uncompensated personality. Psychotic reactions remarkably devoid of leading trends. Fluctuating course with outspoken manic periods alternating with periods of mild depression. Alternating course becoming more pronounced.*

A student, twenty-seven years old, was admitted to the hospital in a state of excitement.

The patient's mother had periodic headaches in early life. She suffered from a depressive psychosis "at the menopause" and was treated in a sanitarium for three months. One paternal uncle committed suicide in a depressive condition following financial reverses. Another paternal uncle developed at the age of fifty-one a chronic circular manic-depressive psychosis lasting for six years. The condition then turned into a chronic depression from which he is still suffering (at the age of seventy-seven). He is at present very feeble and "less susceptible to his morbid ideas." The patient's grandfather had recurrent depressions and died of apoplexy. A maternal grand-aunt is epileptic and her daughter is "insane." A maternal grandmother had migraine.

The patient was an only child. At about the age of three he suffered from night terrors, fearing that there was a colored man in the room. He was afraid of the dark. He had a mild hernia condition on which his mother focussed a great deal of attention. At six he went to school but was withdrawn at the age of eight, after he had been much frightened by a mild hazing episode. He stayed in the country for a year and recovered completely from his nervousness and fear. He returned to school and graduated at eighteen, the first in his class. At the age of twenty-two he graduated from college and then took up the study of law.

He was shy and bashful, but outgrew this. As a child he had short temper tantrums and was excitable. He was much spoiled at home and was guarded from outside contacts. As a student he was very conscientious, quiet, moderately interested in athletics. He was very much under the influence of his mother who kept him tied at home even when he was in college. She wished him to be brilliant and it was in falling in line with his mother's ambition that he took up the study of law.

The patient was admitted to the Phipps Clinic suffering from his fourth psychotic attack. His first attack started at the age of twenty-three, five years before. He wrote a letter to his father from school saying that all the women around the university were immoral and tempting him but that he was resisting their lures. Shortly afterwards, following a smoker at which he drank his first glass of beer, he thought the sky was illuminated, and that Christ's picture, hanging in his room, had changed to his mother's and was smiling at him. He said he was the son of God and "better than Christ." He talked incessantly of a vision and of the Bible. Brought back home, he declined to enter his father's apartment and shortly afterwards tried to run away. He was overactive and talked much, especially about religious subjects. Put to bed, he insisted upon jumping up and down. He was admitted to a private sanitarium where he was excited and noisy. He was in a state of elation, with flight of ideas, overtalkativeness and great

restlessness. The physical examination gave essentially negative findings. He had a grandiose manner, speaking of "my father's mansion" and addressing people as "my son." His elation increased very much; he did not answer questions as to orientation correctly and it was extremely difficult to get his attention. Certain ideas recurred in his mumbling such as "Roach powder—cupid—pretty girls" and "going up and coming down." Towards the end of his attack his excitement simmered down and he was in a state of reserve and slight depression. He was discharged as recovered after a duration of seven months.

At home he led an empty, indolent and easy life. At the age of twenty-eight he suffered from a depressive attack. In summer camp he grew irritable and morose and spoke of an attack coming on. When leaving the camp he accused someone of stealing his pen, said his letters had been opened, was suspicious and thought his friends fooled him concerning the trains. He was sleepless. At home he was depressed, almost mute, would start a sentence and not finish it. Admitted again to the private sanitarium he was fearful and apprehensive and spoke of being killed. There was a question as to whether he had hallucinatory experiences. His speech showed incomprehensible connections. He had emotional outbursts with crying and laughing and his behavior was described as childish and foolish. He made an unexplained attack on a nurse. He seemed to converse with imaginary persons and to derive amusement from this. After five months he became elated and overactive. Recovering from this state he still had brief periods of excitement and was discharged as recovered after a duration of eight months.

At home he found both his parents ill, which is supposed to have been a great strain on him. He attempted to sell life insurance but was unsuccessful.

Six months after discharge from his second attack he became overactive again, swimming and walking a great deal. He boasted of his great prowess, sang and whistled when on the street with his mother and grew enraged when asked to be quiet. He was overtalkative. Nine months after the discharge from his second attack he was again admitted to the private sanitarium. He had a troubled expression, was uncommunicative and slow in movements. After a week he became retarded, sad, full of self-pity. This lasted for seven months, when he got typhoid fever. During his convalescence from the fever he got more interested and bright—normal according to his mother, hypomanic according to the physician's account. He spoke of the depression as a feeling of shyness and diffidence. Showing progressive improvement, he was discharged as recovered after a duration of eleven months.

While at home he led a desultory life, playing the victrola, doing little exercise. After two months he became mildly overactive and obstreperous. He was admitted to the Phipps Clinic showing on admission restlessness, quick activity, distractibility and a tendency to rhyme. He had then an acute laryngeal tracheitis. Within the week he became overactive, showed flight of ideas and talked of having a strange feeling of passion and rage.

He was distractible and showed a tendency to wander from the subject. No signs of projection were elicited. His mood was one of unnatural exhilaration and buoyancy. He seemed to have very good insight. Following a visit from his mother he ran noisily out of the room and slapped a nurse's face very hard. The previous mixed symptoms and the possibility of schizophrenic features in previous attacks were especially considered, but nothing was noticed going outside a pure manic elation. His weight decreased. After three months' time he was transferred to another private sanitarium in New York. There the manic excitement became more severe. He showed marked flight of ideas and at times associations were not evident so that the effect of his speech was almost that of "word-salad." The pressure of talk and activity were most conspicuous. On occasion his behavior seemed to suggest auditory hallucination. He was destructive and profane and practiced open masturbation. There were marked fluctuations, with periods of relative quietness. He denied having hallucinatory experiences and was casual about his illness, saying it "might be due to the weather." He also said the trouble might be due to over-interest in himself. Following a peculiar attack in which he sat with his head thrown back rigidly fighting off interference, he had a further period of excitement succeeded again by a quieter time. After a duration of over two years his behavior seemed normal but his rapport with physicians was not good. He talked superficially and rather automatically and actually seemed to feel himself without conflicts. He seemed well but empty. He spoke of some inferiority feelings because his classmates were getting ahead of him. Following a period of parole to his parents he was discharged, after a duration of two and three-quarter years.

Three months after the discharge he became active, excitable, irritable and impatient, passing gradually again into a manic excitement with insomnia, flight of ideas and distractibility. His excitement grew gradually less and there were two periods when he tried to injure himself. There was great push of talk, remarkably devoid of trends and entirely colored by distractibility and flight of ideas. There was a certain contract between his verbal productivity and general overactivity, and the somewhat empty automatic character of the content of his speech. The patient was transferred to two private sanitariums in succession. His condition continued for a period of seven years. There have been very marked fluctuations in his behavior. Following a cellulitis from an injury and infection resulting from his overactivity he had a period (about six weeks) of indifference and disinterestedness with at times mutism and immobility. This was succeeded by overactivity and fluctuations in mood and activity settling down to a hypomanic state with little interest and refusal to cooperate at analysis. He again became more active with seemingly disconnected and irrelevant talk, obscenity, noisiness and silly laughter. It was felt that schizophrenic features tended to overshadow the manic picture. He continued to show alternating periods of elation followed by apparently mild depressions. In excited periods he was elated, destructive, hit his head against the wall. He acted "like a soap-box orator." Whenever the elation wore off he seemed to think he had been depressed and apparently did not realize that he had been

excited. There have been quiet days when he wept occasionally but was a "delightful companion," talked freely and had pride in his appearance. After a period of two or three days he would begin to be excited again and then he would be "worse than any delirium tremens." Visits from his mother generally precipitated an elation but these periods seemed to be growing shorter, with longer intermissions. He read a great deal, always aloud, and discussed with everybody.

He was discharged, unimproved, from the sanitarium after a duration of seven years and his further progress could not be followed.

Diagnostically these seven patients belong to the group of affective (manic-depressive) psychoses. They all present a condition which shows the essential symptoms and features of manic attacks. That they belong to the affective reaction type is further evidenced in five of the seven cases by the fact of recurrence, similar or identical attacks either preceding or following the chronic attack. All previous and following attacks are manic excitements, except in case No. 7, where there are four previous attacks, three of elation and one of depression.

More difficult than the question of general reaction type is the question of the presence of other clinical admixtures. The fact that affective psychoses tend to occur in persons with a characteristic make-up of essentially syntropic tendencies is well recognized. All the patients except perhaps the seventh one, show clearly this tendency to free and easy emotional contact with the personal and social environment. There is found frequently associated with this an emotional lability in the sense of habitual tendency to a plus or a minus in mood and activity or an alternation between the two (cyclothymia). Very pronounced and exaggerated affective tendencies of this kind should be evaluated as belonging to the group—however unclearly delimited—of constitutional psychopathic personalities. Case No. 4 is a typical example of this cyclothymic personality, with a tendency to "two dispositions." On account of its degree, its sweeping influence on the whole behavior and periodic change apparently independent of provocations from the outside world, this patient has to be classed as a constitutionally psychopathic personality with cyclothymic mood variations. Case No. 7, with emotional instability of a less clear kind already markedly manifest in childhood, likewise belongs to the group of constitutionally psychopathic personalities. It is equally difficult—contrary to a peculiarly widespread opinion—to define the limits of

pathological feeble-mindedness in psychotic cases with poor intellectual endowment. Patients No. 2 and No. 4 are undoubtedly intellectually very much restricted. The significance of this fact in the psychotic development will be discussed later.

Grandiose delusions, common in acute manic excitements, are indicated or present to a marked degree in all cases. Transient trends of delusions of persecution occur in all cases except case No. 2. In case No. 6 the paranoid reaction was especially impressive. There was an acute outbreak in which the patient charged his wife with being after his money and sending spies after him. At the same time he felt people at a hotel where he was staying, were against him and he wanted to sue the hotel for bad treatment received there. This outbreak of persecutory delusions occurred in a setting of great overactivity, when the patient observed and found fault with all sorts of details in his room and in his wider environment and wanted immediate action. It would not be justified to regard these delusional features as reactions foreign to the manic reaction. The persecutory trend in the sixth case, more conspicuous than in the other cases, arises as an integral part of the whole reaction which is of an affective stamp.

In the following chart some of the formal clinical factors are given. Five of the patients are men, two women. It is of interest that in four cases the onset of the chronic excitement is at fifty or over (fifty, fifty-one, fifty-eight, sixty). The lowest age of the onset of the chronic attack occurs in the patient who tends more to the circular group (with one previous depressive attack). The lowest age of onset for the first attack is at fourteen. The figures for the duration of the chronic attack are less significant, because in two cases the patients died during the attack, one as the result of an attack by another patient, while two other patients are still in their chronic attack. It is interesting nevertheless that in the three remaining cases, one of which had two chronic attacks, the duration was twice five and twice six years. Four patients had no previous attacks; in three of them the onset of the chronic psychosis was in later life (fifty, fifty-eight, and sixty years). In only one case was there a previous depressive attack, case No. 7, who belongs to the borderline of cases here mentioned and represents a transition form to the group of prolonged excitements of circular type. One patient, case No. 3, had two chronic attacks of six



years' duration, a very rare clinical occurrence. Three cases recovered from the chronic psychosis. All these three patients had later attacks. At the time of their recovery from the chronic psychosis they were respectively forty-six, fifty-five and sixty-five years old. Of the patients who had later attacks, two had had no attacks previous to the chronic attacks which were at fifty and sixty years respectively.

The precipitating factors are similar in frequency and nature to those found in affective psychoses. In two cases (Nos. 1 and 6) where the onset of the chronic and first attack was in later life,

Case number	Sex	Duration of chronic attack	Outcome	Previous attacks		Later attacks		Total number attacks	Age at onset	
				No. of exc.	No. of depr.	No. of exc.	No. of depr.		First att.	Chronic attack
1	Male	12 years	Died during chronic attack	0	0	0	0	1	58	58
2	Female	6½ years	Died during chronic attack	0	0	0	0	1	38	38
3	Male	1st) 6 years 2nd) 6 years	Recovered	3	0	3	0	8	29	1st) 34 2nd) 40
4	Female	7 years	Still sick	5	0	0	0	6	14	51
5	Male	5 years	Recovered	0	0	1	0	2	50	50
6	Male	5 years	Recovered	0	0	1	0	2	60	60
7	Male	7 years	Still sick	3	1	0	6	5	23	31

the patients had retired from business before the onset of the psychosis. A love affair with possibility of engagement played a part in the onset of the first attack in case No. 3. Death of the mother, from whom she was inseparable, and anniversary of the father's death seem to have played an important rôle in case No. 4.

The content was in three cases (Nos. 2, 3 and 5) frankly erotic; in one case (No. 1) it was predominantly concerned with business; in another (No. 6) it consisted mainly of anger at being antagonized, of suspicion and paranoid ideas, but these elements alternated and mixed with a great deal of sexual content. Case No. 4 was the least productive; her intelligence was below average and

her manic activity from the beginning of the chronic attack showed a certain tendency to automatic repetitions.

The premorbid personality of the cases is of significance. They all are sociable and have generally syntropic tendencies. With the exception of the last case (No. 7) they all show a remarkably similar constitutional make-up. This last patient was emotionally very unstable as a child. He was at first shy and bashful and is said to have outgrown this later. Spoiled at home and shielded from outside contacts, he was much under the influence of his mother. His first psychosis began at the age of twenty-three, and his chronic attack at thirty-one (the earliest by seven years of the whole group). The other six cases despite their differences in intellectual resources, age, station, occupation and sex, all have in common a general characteristic of personality organization which one might designate as a positive charge in mood and activity. In the first case this positive charge is so pronounced and of such degree that one can speak of a hypomanic temperament. He was always very active and independent, knew apparently no fatigue and never took a vacation, had a mind intensive "to an eccentricity," and his hobbies and recreations were work. After his retiring from business at fifty-eight, the psychotic development began. This case has a similarity to the cases described by Nitsche as "progressive manic constitution." The foundation is the "expansive" constitution; this is more exaggerated at about the age of fifty, leading to hypomanic activity, and at the age of fifty-eight the manic excitement sets in.

In the other cases this positive charge in mood and activity is present in somewhat lesser degree. They are described as being very active, persistent, talking a great deal, having many friends, being ambitious, of a jolly optimistic nature. Patient No. 6 persisted for twenty-five years in taking a correspondence course. When he found out that through a change of rules it was all for nothing as far as the academic degree was concerned, he showed an active and expansive reaction. Patient No. 4, who is described as having "two dispositions" which alternate in phases, is interesting in this connection. These phasic variations in her behavior were observed by her family over more than two decades. Her push of activity persists in both phases. In the one period her activity and interest is all devoted to her housework, which she does meticu-

lously and neatly; in the other there is omniverous reading and great sociability with neglect of household duties. The positive charge in mood and activity is least apparent in the second patient (No. 2) whose intellectual equipment is below the average. She lived a restricted life, shielded and somewhat spoiled by her parents. Her disposition was buoyant and jolly with little variation except that she was easily excitable. She had a tendency to "fall in love" with women. In five of the patients (Nos. 1, 3, 4, 5, 6) there is evidence of a markedly independent attitude with a tendency to a certain rigidity, such as is not uncommon with the personalities later suffering from affective psychoses.

In respect to general intellectual resources, three of the patients are average, two decidedly below average, two above average.

The anthropological characteristics of this group of patients are not without significance. All seven cases were free from "growth disorders" (Wertham). A correlation between the pyknic habitus and the affective make-up has to be considered as established. Anthropological examination for body types was made in only three cases, in one case by exact anthropometric examination as well as by observation. All three belong to the pyknic type in its most pronounced form. In the patient in whom the first manic attack appeared at the age of fourteen, a series of photographs from childhood to late adult life clearly showed early traits of the pyknic habitus and its development with growth. In another case (No. 1) the weight of over two hundred pounds, with little more than average height, may be taken as an indication that the patient was not of asthenic constitution. According to von Rohden the distribution of leptosome, athletic and pyknic body types among the general population is

$$l : a : p = 60 : 30 : 10$$

This would give a relationship of pyknic types to other body types of one to nine. Considering that the cases of this study were selected from a large number of patients for specific psychiatric reasons, the fact that the three cases whose habitus was noted were all definitely pyknic may be regarded as indication of a positive correlation.

In the course of the chronic psychosis all the patients show over a prolonged period reactions such as can be found in acute manic attacks. All but two had either previously or later more or less

typical acute manic attacks. The question of whether there are in the progress of the chronic condition marked changes in the reaction and of what nature they are, is difficult to decide. In none of the cases was there any reduction of mental functions which would deserve the designation of dementia. Evidence of a profound "transformation" of the syndrome (Thursch, Kirby) or of deterioration was also not found. But there were in the progress of the reaction certain changes, which are briefly given in the following:

CASE 1.—(Duration twelve years.) Increasing irritability; grandiose delusions of having been appointed to a high office with evidence of little judgment; productivity a little more monotonous and restricted. The lack of judgment was spoken of once as deterioration, but there was practically no evidence of it in the patient's behavior.

CASE 2.—(Duration six years.) Tendency more and more to alternation between very severe excitement and relatively quieter periods, the quieter periods becoming longer.

CASE 3.—(Duration six years; one previous attack of six years.) The patient was observed in clinic during the end stage of the second chronic excitement, when he behaved very much like a patient in an acute manic attack. In the progress of the condition, he had shown tendency to periods of let-up in the excitement.

CASE 4.—(Duration seven years.) There was on the whole a decrease in overactivity; paranoid ideas against the nurses appeared, mainly as jocular make-believe; A certain automaticity in the repetition of verbal utterances was noticed in the progress of the reaction, but this tendency had been present in the initial stages of the attack; the patient was spoken of as showing "some mental deterioration," but there had been evidently very little change since the onset.

CASE 5.—Practically no change; recovery after five years.

CASE 6.—Very little change; recovery after five years.

CASE 7.—(Duration seven years.) There were increasing fluctuations in mood and activity, with periods of indifference and silly laughter. The manic behavior was prevalent throughout, but the emotionally less clear-cut states became more frequent; the progress was spoken of once as of schizophrenic features overshadowing the manic features, but there was no evidence of projection, deterioration or profound general change in the picture. The patient continued to have periods of severe excitement, which, however, grew shorter.

On the whole one may say that patients with chronic manic excitements may tend to show after prolongation of the attack:

(1) A more and more marked tendency to fluctuations, with relatively quieter periods intervening.

(2) A reduction in overactivity and intellectual productivity with tendency to a certain monotony and automaticity.

(3) Appearance of delusional ideas, transient and impressing one as showing a diminution of intellectual discernment.

The three recoveries, of the seven patients (two are still ill and two died), seem to show that there is little danger of a permanent deteriorating change. Godard remarks that in cases of this kind one is apt to diagnose a state of dementia before it really exists. He describes a woman who had a psychosis of fourteen years duration with no previous attacks, showing an incoherent, unintelligible stream of speech with neologisms. He suggests Chaslin's designation of "incomplete dementia" for the condition. The diagnosis of his case as uncomplicated chronic manic excitement is doubtful. It is more than likely that in those cases in which marked intellectual deterioration has been found it was due to organic, senile or arteriosclerotic changes. Rogues de Fursac, for instance, speaks of a true chronic mania with intellectual reduction. He considers it impossible to decide whether this intellectual deficit is directly referable to the manic state or is of senile origin. Chronic mania according to him is found only above the age of sixty years.

It is a question of considerable psychopathological interest how it happens that chronic manic patients after years of profoundly psychotic behavior preserve so well the integrity of their personality and show very little or no diminution of their intellectual and affective faculties. This absence of any essential deterioration in chronic manic conditions has an analogy in the clinical observation that psychoses in which manic-like excitement occurs often take a somewhat more favorable course. This seems to hold true for manic states in general paresis, in schizophrenic conditions and perhaps also in encephalitic psychoses. The manic patient reacts to a great variety of things without any deep-lying special conflict. He is active and expansive and keeps his resources alive in contact with whatever is available in his environment. In chronic depressions, on the other hand, the very monotony of the reaction may constitute a grave risk as to possible disintegration. It seems therefore that the intactness of the intellectual and emotional equip-

ment of chronic manic patients after years of illness has a relationship to the fundamental features of the manic state itself.

The attempt to account for the conditions under which these chronic manic excitements occur meets with great difficulties. Knowledge concerning the pathogenesis of manic attacks in their acute forms is incomplete. But even though there can be no expectation of arriving at the distant goal of an experimentally demonstrable chain of events, one may nevertheless embark on the way and try to reach a first vantage point from which later work might start. The etiological factors mainly held responsible in the literature on the subject are heredity, constitution, and precipitating factors; but with little attempt at more concrete working-out even of these factors. In the investigation of chronic reactions the remembrance of clinical analogies of other conditions is tempting. In the stationary forms of general paresis an interesting transformation and reduction of the mental symptoms is sometimes found. Chronic chorea, especially chorea senilis, is a hyper-kinetic neurological syndrome of long duration. One may ask oneself not only where the lesion is which accounts for this, but also what other neurological mechanism or center or system could through a change in its function inhibit the chronic movements. Likewise in psychiatric conditions of chronicity the question arises, not only as to why the disorder continues, but also as to what other part of the personality organization could or should exercise an influence to stop the condition. One might give as an example the not infrequent recoveries from affective psychoses in which there is a prolonged lingering of certain milder symptoms—such as insomnia, unreality feelings, or any of a variety of psychoneurotic symptoms.

The problem of the conditions favorable to chronicity is in reality inseparable from that of the genesis of the attacks themselves. It may be assumed that the constitutional foundation and the general setting in which the manic attacks occur may with certain alterations, or under changed circumstances, be the main constituent of the conditions responsible for chronic manic reactions. It is hazardous to attempt even tentative conclusions from the study of a small number of cases. However, the condition being evidently very infrequent, the factors at work in these cases may yield certain leads for further orientation. In previous discussions of chronic



mania, in fact, conclusions drawn from only one or two cases have proved to be helpful. It is suggested here that there are in the main two factors, the concurrence of which constitutes an essential condition for the development of chronic manic excitement. The first of these is the existence of a manic constitutional factor in the personality organization. It is possible within the constitutional foundation of the manic-depressive group, to speak of a specific manic constitution. Just as the psycho-dynamic mechanism which is a part of the manic reaction is different from that of a depression, so the constitutional foundation which is also a part of the reaction is rooted in ingrained peculiarities of the personality different from those of the depressive constitution. Kraepelin found in nine per cent of manic-depressive patients a manic constitutional disposition. It is of great interest and significance that single-ovum manic-depressive twins of whom one was only manic and one only depressive, have not been observed. In view of these considerations, facts pointing toward a manic constitutional factor as opposed to a synthetic affective make-up may be regarded as significant.

Concretely, in the cases concerned, evidence pointing to the existence of a manic constitution is apparent. In the following discussion abstraction will be made of the seventh case which in a number of respects differs from the rest of the cases and presents a transition to the circular psychoses, which, according to Rehm, Kirby and others, are the affective psychoses with most tendency to chronicity. In four cases a manic constitutional element is indicated by the fact of recurrence, with from two to eight attacks. None of the patients had depressive attacks either before or after the chronic psychosis. Whatever the nature and mechanism of a manic reaction may be, the fact that an individual responds with the identical reaction on more than one occasion leads necessarily to the assumption of an ingrained element. In one case (No. 1), the hypomanic-manic tendency is clearly evident all through life. This patient conforms to a group of cases first described by Nitsche as "progressive manic constitution." All the cases show in their constitutional make-up the "positive charge in mood and activity" spoken of before, which Ewald would call "high biotonus."

The second factor which is suggested as forming an essential condition for the development of prolonged manic excitements is

a characteristic mode of reactivity of the whole personality, of complex nature and not of uniform origin in different individuals. For want of a better term, it may be designated as "psychobiological rigidity."

There have been some interesting investigations of the psychodynamic aspect of manic attacks. Abraham emphasized the similarity between the flight of ideas, elation, lability of experience and playing with words of the manic syndrome, and the normal behavior in childhood. He considered the manic attack a regression to childhood. Campbell has pointed out the superficiality and transparency of the symbolism in manic productivity. Robin has shown in interesting fashion the understandable underlying psychogenic situation, or what he calls the "human part" of certain manic pictures. He, however, wishes to make a sharp distinction between psychogenic mania (*d'origine émotive*) and ordinary mania. Schilder sees in the manic attack two elements. The content, as shown for instance in manic delusions, is an integral component of the reaction. It is part of a psychogenic chain which can be analytically demonstrated. Just as there are all positive transition forms between reactive and endogenic depressions, so also there is a "reactive mania." There is, however, also an equally important "extra-psychic" element manifesting itself in a change of the level of behavior. The level of manic reactivity is characterized by a general change in that behavior pattern which has as its keynote "joy and action," which combination is the essential manic criterion.

Abstracting from the more theoretical elaborations and interpretations of these investigations, here only briefly and imperfectly sketched, one may deduce that in the manic attack the previous attitude of the patient is not modified by part changes or substitutions, as in psychoneuroses, nor is it wholly carried over into the attack, as in some depressions; but there is a sweeping temporary change of behavior as if a whole barrier had been removed. There is a complete change of scene—to that of childhood, Abraham believes—to a different level, in Schilder's conception. This complete shift to a sudden attitude characterized by an apparent ease in all mental functions presupposes that a more partial easing-up is not possible to the patient at the stage of a certain crisis in his development and adaptation. There is then to be assumed in the manic group a certain rigidity of the whole personality, which

forms the necessary background for the manic attack. It seems that the soil in which prolonged manic attacks arise is characterized by a very marked degree of this "psychobiological rigidity," in combination with the manic constitution.

There seem to be three factors which alone or in conjunction bring about or increase this condition of rigidity. The most important of these is maturity of development, which is correlated biologically with a lack of elasticity or plasticity. In four of the six cases the onset of the chronic attack was in the sixth decade (in two at an age of 58 and 60). In no case was the onset of the chronic attack before the middle of the fourth decade. This fact, also proved in the literature on the subject, that chronic manic psychoses happen in later life and are unknown before maturity seems of great importance. There is a striking similarity here to paranoia. Paranoid developments below the age of maturity, *i. e.*, before about thirty years, are unknown and the onset is nearly always at about forty years or later (Ewald). Certain deep-rooted similarities between the manic and paranoid groups seem to exist which are not yet clear. There is in the manic a potential tendency to paranoid delusion formation for which the superficial explanation that the manic gets in conflict with his environment is not sufficient. The recurrent manic paranoid psychosis of John and the delusions of invention of the chronic manic patient described by Delmas are interesting examples. In regarding the initial paranoid outbreak in the sixth patient and similar cases one has the feeling that if the patient did not have at his disposal the manic reaction pattern, the temporary removal of the whole barrier, his rigidity might lead him along a purely paranoid development. The more pronounced the manic syndrome becomes, the more the elaboration of paranoid ideas recedes to the background. One might further suggest that the same combination of factors of which a general psychobiological rigidity is one part may lead to a chronicity and systematization of delusions in paranoid conditions and to chronicity of the manic attack in manic psychoses.

The importance of the age factor in the development of chronic manic attacks is borne out in interesting fashion by the fact that a relatively considerable number of chronic manic cases is recorded in the literature on mania of advanced age (Molin de Teysieu, H. Meyer, Ducosté).

Secondly, there is evidence of a characterological rigidity in the premorbid personality. That personalities predisposed to affective psychoses have a mature and as it were fixed character development, and often an independent, rigid, my-own-way-or-not-at-all attitude, is well known. The depressive patient is apt to judge himself with the greatest severity and rigidity. Pronounced self-accusations, where the physician has little chance to modify the patient's rigid attitude in judging himself, usually occur late in life (Bond). Their rigidity is also shown in the fact that they recover entirely in their own way and, as Bond has shown in his study of self-accusation, usually without any direct help of the physician in solving their delusions. Patients one, three, four, five and six show a certain exaggerated independence, inflexibility or even a rigid attitude in their personality make-up. Of the third patient it was said that "the keynote of his life was that he had the habit of acting independently." The fourth patient was described as "very set in her ways" and "pig-headed."

The third factor which can be conducive to the condition of marked adaptive rigidity is the existence of a pronounced reduction of intellectual equipment. Patients two and four were intellectually very much restricted. It is of interest that the one case of chronic mania given in the monograph of Deron was mentally retarded.

The combination of a manic constitution with one or several of the factors conducive to a state of "psychobiological rigidity," as shown in these cases, is also found in the cases reported in the literature. Tentatively the conclusion may be formulated that conditions favorable to the occurrence of prolonged manic reactions include the existence of a manic constitution and the presence of factors in make-up and development which lead to what may be termed an increased "psychobiological rigidity."

It seemed of interest to determine in a large number of cases the variations in the duration of manic attacks and the frequency of prolonged manic attacks. There was the further problem as to whether the conclusion drawn from the cases described in this study, that chronic manic attacks have an affinity to mature or advanced age, could be corroborated statistically in a large number of cases.

Through the great kindness of Dr. Horatio M. Pollock, Director of the Statistical Bureau of the Department of Mental Hygiene of the State of New York, data of 2000 manic cases were made available for investigation. This material consists of manic attacks of 1000 male and 1000 female recovered manic-depressive patients who were first admissions to the New York civil state hospitals, 1915 to 1927.

The duration period in which the largest number of cases in this material occurs is in the neighborhood of 120 days, *i. e.*, four months. The average duration of all the manic attacks was 241.7 days (34.6 weeks). This average is higher than the average duration found in the carefully studied material of Panse who in a very much smaller material found an average of 27.3 weeks.

Fig. 1 shows the distribution of all cases according to duration. It is striking how the cases steadily decline in number as the duration increases. The decrease is steady and gradual until the duration of about one year and ten months is reached. From then on the cases are very infrequent. For this reason in Figs. 1, 2 and 3 the whole curve showing the duration of cases was divided and the cases with duration of over two years were charted on a larger scale.

Figs. 2 and 3 show the frequency distribution as to duration of manic attacks of the 1000 male and 1000 female patients who compose the material. These distributions show conclusively that prolonged manic attacks are very infrequent. While it is to a certain extent arbitrary to draw a line where the designation of prolonged manic should begin to apply, it would seem warranted from the distribution indicated by these curves to speak of prolonged manic attacks when there is a duration of over two years. Cases with a duration of over five years are very rare. The distribution according to duration of attacks in male patients, female patients and the whole group is very similar. On the whole there seems to be a slight preponderance of chronic attacks in women. In the cases of twelve women and two men the duration is over five years. The frequency of cases with a duration of over five years, the group in which fall the seven cases of this study, is therefore about eight *pro mille*.

The distribution according to age at admission (Fig. 4) shows that the peak of the curve is between twenty and twenty-five years.

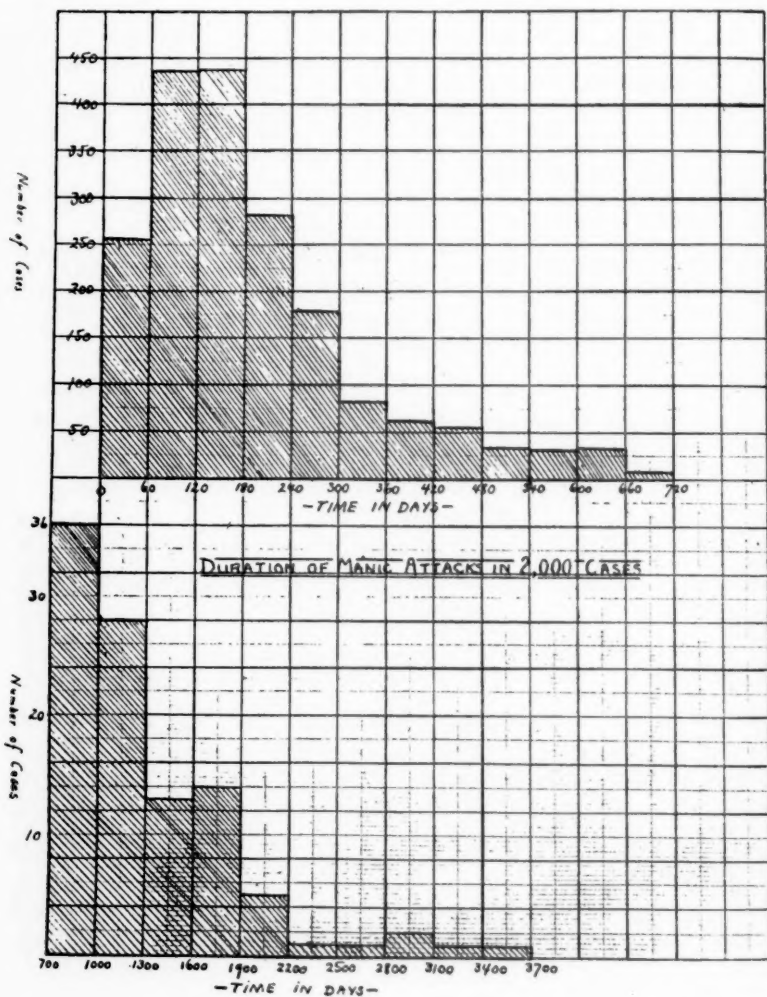


FIG. 1.—Frequency distribution polygon showing the duration of manic attacks in 2000 cases, including male and female patients. The figure is divided so that the cases with a duration of over two years are charted separately on a larger scale on account of the infrequency of these cases.



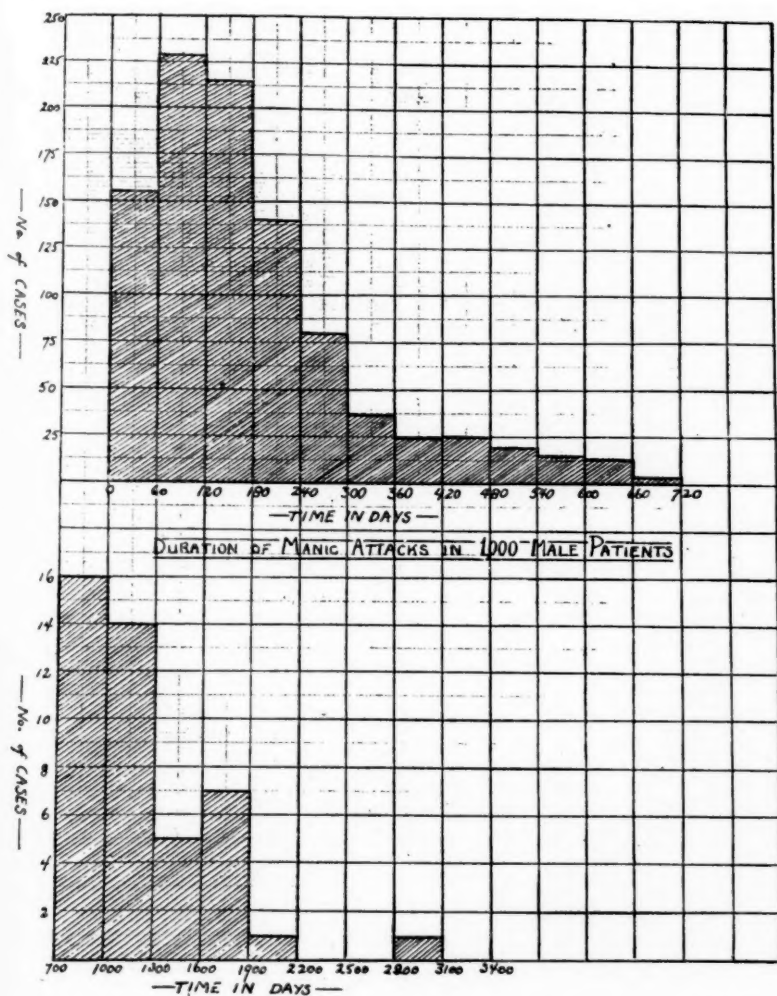


FIG. 2.—Frequency distribution polygon showing duration of manic attacks, in 1000 male patients. Arrangement of the figure same as in Fig. 1.

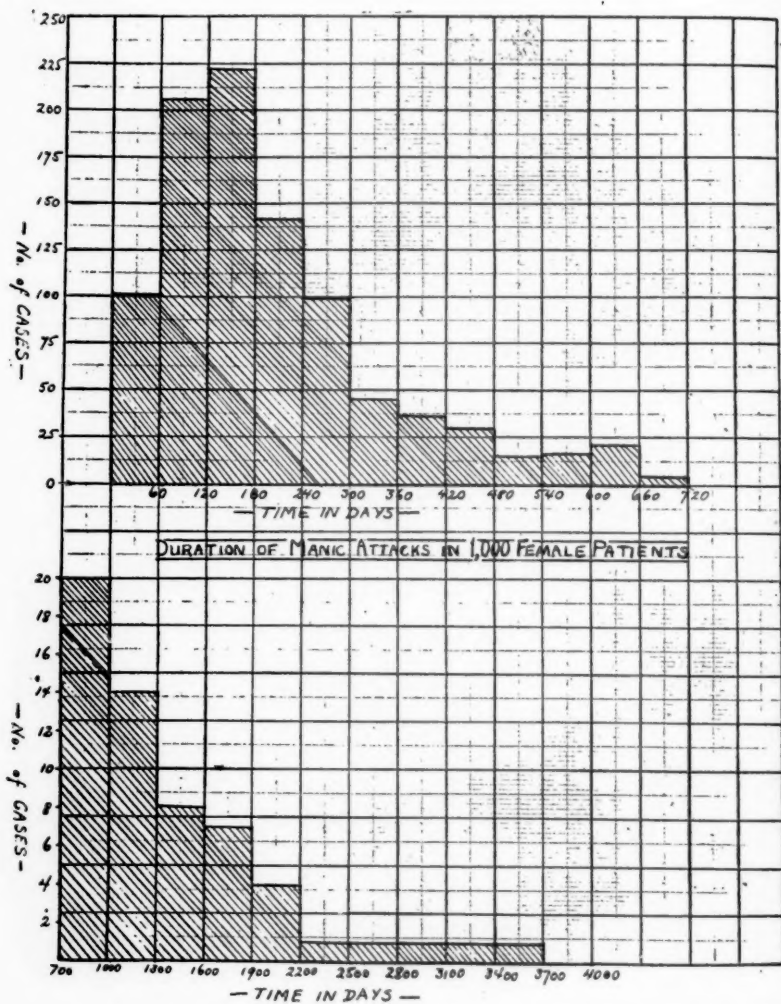


FIG. 3.—Frequency distribution polygon showing duration of manic attacks in 1000 female patients. Arrangement of the figure as in Figs. 1 and 2.

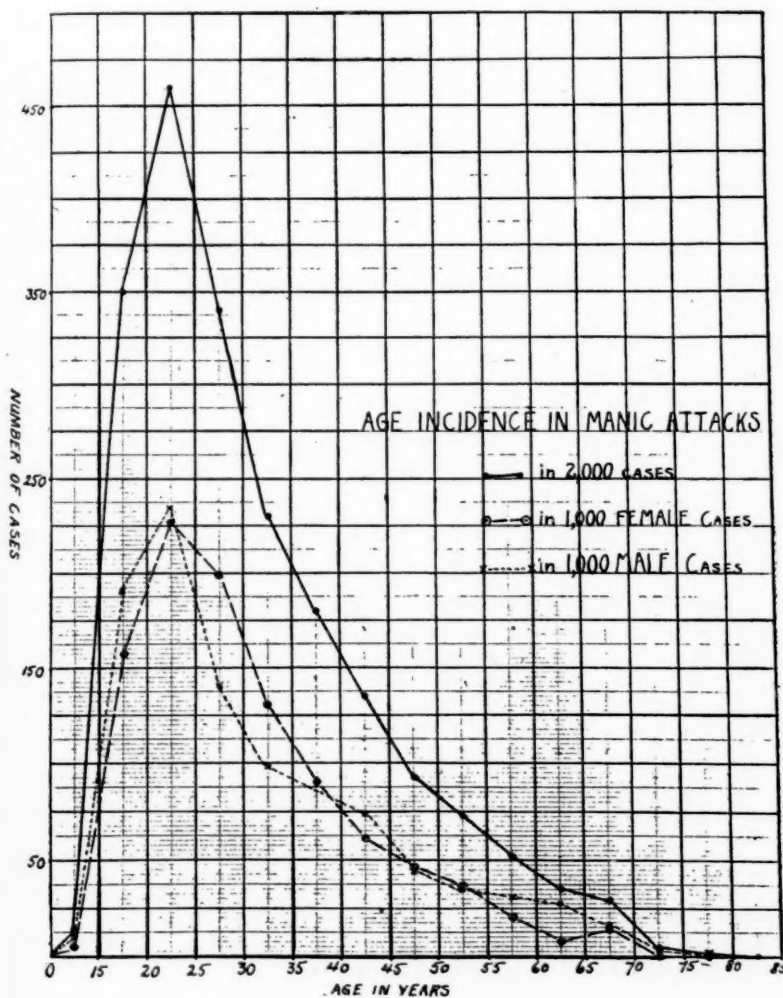


FIG. 4. Curves showing the frequency distribution according to age in first admissions of manic attacks in 2000 cases. The curves for men, women and both combined correspond closely.

From then on, the curve decreases rapidly and steadily as the age periods increase. The distribution is about the same for men, women and the group as a whole. First admissions after the age of forty-five are relatively very infrequent. The average age of all cases is thirty-two years.

It seemed of especial interest to determine further the relationship between the duration and the age of these patients with manic attacks. Fig. 5 gives a survey of this relationship.\* In the group of cases with a duration of less than ninety days there is a steady decline of cases after the twenty-to-thirty years age period. Cases of mature age are relatively infrequent. This is even more true in the groups with a duration of from three to nine months. The maximum incidence of cases in the age group of from twenty to twenty-five and the infrequency of cases at mature and advanced age is very striking. These three curves (the first three curves of Fig. 5) are very similar to the figure showing the age distribution of all cases (Fig. 4). The distribution of cases differs in the group with a duration of over two years. The concentration of cases in the early age groups is distinctly less and there is a suggestion of a second peak in the age groups of mature and advanced age. The average age of the patients according to groups of duration makes the relationship between age and duration even more clear. Table I shows the average age of the duration groups of all patients by years.

TABLE I.

AVERAGE AGE IN 2000 RECOVERED MANIC PSYCHOSES (1ST ADMISSIONS)  
GROUPED ACCORDING TO DURATION OF DISEASE.

Duration group	Mean age	Probable error	Standard deviation
Under 1 year.....	31 years	.190	12.580
1—2 years (1100 days).....	33 years	.497	13.29
2—3 years (1500 days).....	37 years	1.018	15.25
3—4 years (2000 days).....	38 years	1.354	14.885
4—5 years .....	40 years	1.989	16.156
5 years and over.....	40 years	3.345	15.685

\* I am indebted to Dr. Halbert L. Dunn, Associate Professor of Biometry and Vital Statistics of the School of Hygiene and Public Health of the Johns Hopkins University, for advice and help in the statistical treatment of this material.

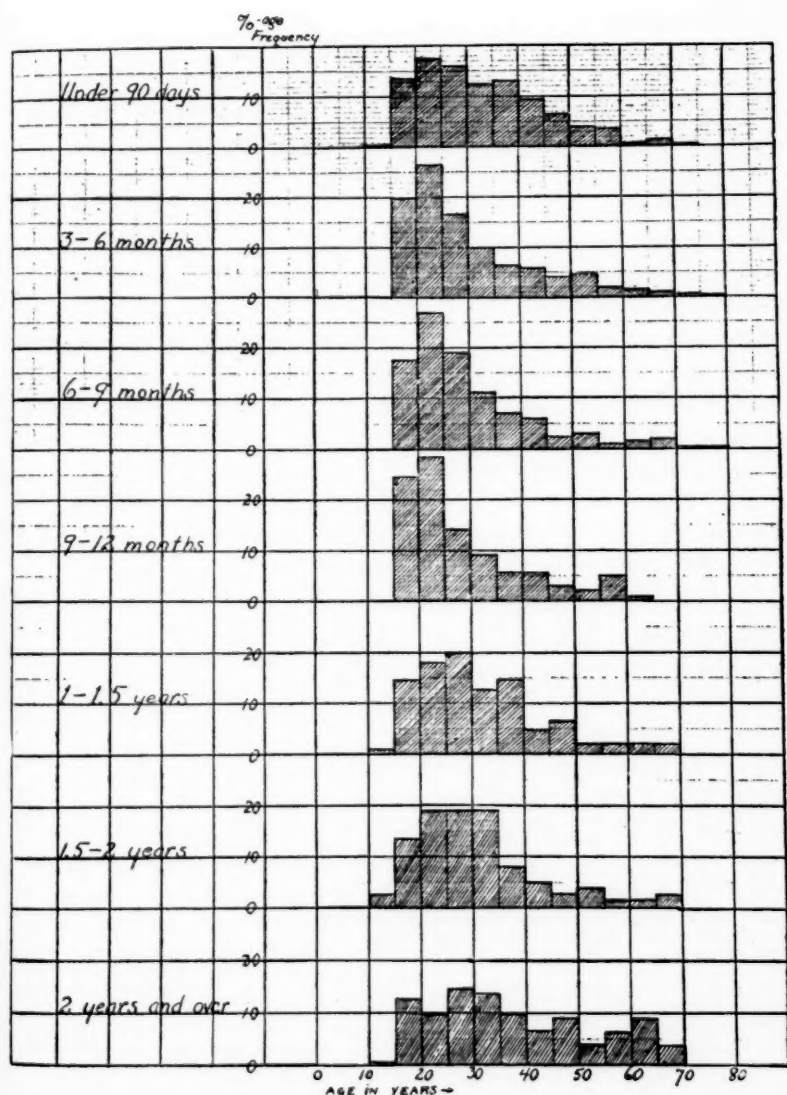


FIG. 5.—Frequency polygons showing the distribution of cases in percentages of the total group according to age. In the group with duration of under ninety days there is a steady decrease in the number of cases after the twenty-three years age period. In cases lasting over two years, first admissions of advanced and mature age are considerably more frequent.

The increase in these average ages points to a definite biological correlation between age and duration of first admission of patients with manic attacks. This statistical result confirms the conclusion derived from the cases of chronic manic excitements in this study, that age is one of the most important demonstrable factors entering into the development of chronic manic excitements.

The occurrence of prolonged overactivity in psychopathic states presents clinical and pathological problems which are not yet clear. Among imbeciles there is the chronic erethism of some cases constituting a clinical type in sharp contrast to the so-called torpid or underactive form. There are of course many forms of habitual behavior in imbeciles between these two extremes. But the two types of overactive and underactive habitual behavior can be clearly distinguished in certain cases. It is interesting to note that Griesinger thought that no sharp distinction is possible between this erethic form of juvenile imbecility and manic states in childhood. He considered that these cases of overactive idiots constitute a transition form to real mania (*Tobsucht*). The basis of this difference in the behavior of imbeciles is not known. Attempts have been made to refer these two types of excitement and underactivity to special etiological conditions. Cretinistic imbeciles tend to underactivity (*Bleuler*). Microcephalic idiots are said to tend to excited behavior, an observation first made by Bischoff in 1873. He considered overactive behavior as typical of all microcephalic patients, a view which clinical experience has not confirmed. It is doubtful to what extent localizing pathological anatomical considerations will explain these conditions. There may be fundamental constitutional psychobiological differences which may have analogies with the different types of overactive and underactive behavior such as is found in different species of animals. An example of this would be the erethic behavior of the raccoon in contrast to the torpid behavior of the sloth.

States of prolonged excitement of severe degree occurring in psychoses have received little attention as a separate group of psychopathological phenomena. It is suggested in this study that progress in the investigation of these states may be made by the clinical analysis of psychopathologically similar and relatively clear smaller groups of cases. Prolonged excitements can occur in clinically very different conditions, of which chronic manic excitements are one



type. In psychiatric literature and current clinical usage unclear cases of chronic excitements of very heterogeneous constitutional and psychopathological basis have been designated as chronic mania: conditions of more or less marked dementia with initial or intercurrent states of excitement, catatonic excitements, psychopathic personalities with "constitutional excitement" and hypomanic phases, severe manic excitements leading after a long duration to a state of "dementia," long excited phases in circular manic-depressive conditions, paranoid psychoses on the basis of manic constitutional tendencies, acute manic attacks of long duration, manic excitements with "transformation" of symptoms to superficially indifferent states. The "transformations" which do occur with long duration of affective psychoses have been described very differently by different authors, a fact to which Panse has recently again drawn attention. It seems very probable that some of the conditions described as chronic mania which occur in manic-depressive cases of circular type are due to multiform pictures and varying degrees of mixed states. The clinical analysis of these cases is therefore very difficult and the features ascribed to prolonged mania on the basis of studies of this type may refer more to peculiarities of affective psychoses of circular type than to prolonged manic states. It is apparently often thought, from a rather formal point of view, that the chronicity of manic attacks is due to the admixture of constitutional schizophrenic features. From the investigation of the group of cases in this study this is not borne out, for these cases of chronic manic excitements have constitutionally all the earmarks of affective psychoses.

From the study of this material and from scattered cases recorded in the literature it seems possible to single out a distinct group of prolonged manic excitements which consists of infrequent cases arising on the foundation of a manic constitution, with a tendency to the onset of a chronic condition in mature or later life, a tendency to recurring acute manic attacks, reduction in the manic overactivity with tendency to fluctuation, absence of pronounced signs of deterioration and a potential possibility of recovery from the chronic attack. The seventh case of this study may be regarded as a transition from these cases to the cases of chronic manic excitements occurring in a circular setting.

Theoretically the group of benign chronic manic excitements described here is of significance as a point of orientation for the further investigation of the nature and course of chronic excitements in affective psychoses and of chronic excitements in general. Practically, its recognition is of importance inasmuch as the condition—as in the majority of the cases of this study—is often not correctly interpreted. On account of the long duration, the intense outbursts on paranoid lines, the great impulsiveness and the contrary attitude, these patients are apt to be diagnosed as paranoid psychoses, as schizophrenic psychoses, as paraphrenia or as involutional psychoses of unfavorable type. The opinion seems warranted that further clinical investigation will reveal similar typical clinical groups and lead to a closer understanding of the psychopathology of chronic states of excitement.

#### SUMMARY.

1. A historical survey of the literature bearing on prolonged manic excitements is given. This brings out that fully described cases of prolonged manic excitements are scarce (some are to be found in the literature on "late recoveries") and that there is little agreement among different authors as to the nature, outcome, and clinical evaluation of these conditions. The view seems to prevail that there are conditions of "chronic mania" which are essentially incurable; that other cases of prolonged manic excitements are in every respect the same as acute manic attacks; that still other prolonged excitements of manic nature really belong to the schizophrenic group.

2. Six cases of prolonged manic excitement of from five to eleven years duration are reported. Four of these patients had either previous or subsequent manic attacks; in two patients the prolonged excitement was the only attack; no patient had depressive attacks, either before or after the prolonged excitement. One patient had two attacks of prolonged manic excitement, each of six years duration.

3. As to outcome of the prolonged attack: three cases recovered; two cases died during the attack (one from a heart disease, the other as the result of an accident); one is still sick. The three recovered cases had later manic attacks.

4. The onset of the prolonged attack occurs in mature or advanced age: in four cases at fifty or over (fifty, fifty-one, fifty-eight, and sixty); in one at thirty-eight, and in one at thirty-four.

5. The premorbid personality of the six cases shows a "positive charge in mood and activity": they are very active and persistent, talk a great deal, have many friends, are ambitious and of a jolly optimistic nature. The first patient is of definitely hypomanic temperament, and in his development shows a similarity to the cases described by Nitsche as "progressive manic constitution."

6. All cases were free from "growth disorders" (Wertham). In only three cases was the anthropological type ascertained; all three belonged to the pyknic type in its most pronounced form.

7. After prolongation of the manic psychosis the patients tended to show:

(a) A more and more marked tendency to fluctuations, with relatively quieter periods intervening.

(b) A reduction in overactivity and intellectual productivity with tendency to a certain monotony and automaticity.

(c) Appearance of delusional ideas, transient and impressing one as showing a diminution of intellectual discernment.

8. The patients of this study after years of profoundly psychotic behavior preserve well the integrity of their personality and show very little or no diminution of their intellectual and affective faculties.

9. Conditions favorable to the occurrence of prolonged manic attacks are: (a) The existence of a manic constitution combined with what may be termed (b) an increased "psychobiological rigidity."

The existence of a manic constitutional element (a) in these cases is evidenced by (1) the recurrence of manic attacks with absence of depressive attacks; (2) a "positive charge in mood and activity," which Ewald speaks of as "high biotonus."

Manic attacks occur in individuals with a certain rigidity (b) of the whole personality. There seem to be three factors which alone or in conjunction with one another bring about or increase this psychobiological rigidity.

(1) Onset at maturity or advanced age. The importance of the age factor in the development of prolonged manic attacks is also borne out by the fact that a relatively considerable number of

*prolonged* manic attacks is recorded in the literature on mania of advanced age (Molin de Teyssieu, H. Meyer, Ducosté).

(2) Evidence of characterological rigidity in the premorbid personality. This is noted in five of the six patients.

(3) Pronounced reduction of intellectual equipment. This is noted in two patients.

10. A seventh case of prolonged manic excitement is reported which represents a transition to the group of chronic manic excitements of circular type. This patient had one previous depression, the age of onset was relatively early (thirty-one), he was emotionally very unstable as a child, and in the course of the psychosis the elation became less continuous and there was an alternating course with periods of mild depression between the states of excitement.

11. In a series of manic attacks of 1000 male and 1000 female recovered manic-depressive patients who were first admissions to the New York civil State Hospitals, the variation in the duration of manic attacks, the frequency of chronicity and the relationship between age and duration of the attack were studied.

(a) *Duration*.—The duration period in which the largest number of cases occurs is about 120 days (4 months). The average duration of all manic attacks was 241.7 days (34.5 weeks). There is a continuous decline in the number of cases as the duration increases, from 120 days on. The decrease is steady and gradual until the duration of about one year and ten months is reached; from then on the cases are very infrequent (Figs. 1, 2, 3). The distribution according to duration of attacks in male and female patients is very similar to the distribution for the combined group.

(b) *Frequency*.—There is a slight preponderance of chronic attacks in women. The frequency of cases with a duration of over five years, the group to which belong the cases of this study, as compared with the frequency of cases with shorter duration, is about eight *pro mille*.

(c) *Age*.—The average age at admission of the 2000 cases is thirty-two years. The peak of the distribution according to age is between twenty and twenty-five. Then the curve decreases rapidly and steadily as the age periods increase (Fig. 4).

12. There is a definite biological correlation between age and duration of first admissions of manic patients. This is shown by

frequency polygons showing the distribution of cases according to age (Fig. 5), and by a comparison of the average ages of the duration groups (Table I). The average age at admission of the group with duration under one year is thirty-one years; that of the group with duration of five years and over is forty years. This statistical result confirms the conclusion derived from the clinical study of the prolonged manic excitements here reported, that age is one of the most important demonstrable factors entering into the development of prolonged manic excitements.

13. There are evidently different groups of psychoses with prolonged manic excitements. The group isolated and described here as cases of benign chronic psychoses has distinct constitutional and clinical features and may serve as a point of orientation for further investigation of prolonged excitements in affective psychoses and of chronic excitements in general. Practically, its recognition is of importance because these cases are frequently wrongly interpreted. On account of the long duration, the intense outbursts on paranoid lines, the great impulsiveness and the contrary attitude, the patients are apt to be diagnosed as paranoid psychoses, as schizophrenic psychoses, as paraphrenia, or as involutional psychoses of unfavorable type.

14. From the study of this material and from scattered cases recorded in the literature, it seems possible to single out a distinct group of benign chronic manic excitements which consists of infrequent cases arising on the foundation of a manic constitution with a tendency to recurring acute manic attacks, an affinity to the pyknic body type, a tendency to the onset of a chronic condition in mature or later life, absence of depressive attacks or circular phenomena, reduction in the manic overactivity with tendency to fluctuation, absence of pronounced signs of deterioration and a potential possibility of recovery from the chronic attack.

#### BIBLIOGRAPHY.

1. Abraham, K.: Ansätze zur psychoanalytischen Erforschung und Behandlung des manisch-depressiven Irreseins und verwandter Zustände. *Zentralbl. f. Psychoanal.*, 1912, ii, 302.
2. Anglade: *Délires systématisés secondaires*. Congrès de Marseille, 1899. Quoted by Renault et al.
3. Benon, R. and P. Denès: *Manie chronique*. *Nouvelle Iconographie de la Salpêtrière*, 1913, xxvi, 122.

4. Berze, J.: Über moralische Defektzustände. *Jahrb. f. Psych. u. Neurol.*, 1897, xv, 62.
5. Bond, E. D.: A study of self-accusation. *Amer. Jour. of Insan.*, 1917-1918, lxxiv, 169.
6. Bonhoeffer, K.: *Klinische Beiträge zur Lehre von den Degenerationspsychosen.* Halle, 1907.
7. Bucknill and Tuke: *A manual of psychological medicine.* London, 1874.
8. Bumke, O.: Über die Umgrenzung des manisch-depressiven Irreseins. *Zentralbl. f. Nervenheilk. u. Psych.*, 1909, xxxii, 381.
9. Bumke, O.: *Lehrbuch der Geisteskrankheiten.* München. 1924.
10. Campbell, C. M.: On the mechanism of some cases of manic-depressive excitement. *Rev. of Neurol. and Psychiatry*, 1914, xii, 175.
11. Campbell, Keith: A case of chronic mania, with notes on treatment. *Jour. of Ment. Science*, 1897, xliii, 829.
12. Carlisle, C. L.: Maniacal conditions in young adults. *Amer. Jour. of Insan.*, 1907, lxiii, 469.
13. Damaye, H.: Manie pure et manie confusionnelle. *Revue de Psychiatrie*, 1910, xiv, 354.
14. Da Rocha, F.: La manie chronique. *Ann. méd.-psychol.*, 1921, lxxix, 412.
15. Delmas: Hypomanie chronique et inventions. *Jour. de psychol.*, 1924, xxi, 11.
16. van Deventer: Ein Fall von sanguinscher Minderwertigkeit. *Allg. Zeitschr. f. Psych.*, 1895, li, 550.
17. Dietrich, B.: *Klinischer Beitrag zur Lehre von der chronischen Manie.* Dissertation Erlangen. Münster. 1912.
18. Ducosté, M.: De l'involution pré-sénile dans la folie maniaque-dépressive. *Ann. méd.-psychol.*, 1907, lxxv, 299.
19. Eisath, G.: Paranoiden Symptomenkomplex und manisch-depressives Irresein. *Zeitschr. f. d. ges. Neur. u. Psychiatr.*, 1918, xli, 229.
20. Eisler, M. J.: Der Ausbruch einer manischen Erregung. *Internat. Zeitschr. f. Psychoanal.*, 1921, vii, 198.
21. Elzholz, A.: Acute Psychose geheilt nach 13 Jahren. *Wien. med. Wochenschr.*, 1896, xlv, 1676.
22. Esposito, G.: Sulla natura e sull' unità delle cosiddette psicosi affettive. *Il Manicomio*, 1907, xxiii, 145.
23. Esposito, G.: Paranoia e psicosi maniaco-depressive. *Rivista italiana di Neuropatologia, Psichiatria ed Elettroterapia*, 1911, iv, 400.
24. Ewald, G.: Das manische Element in der Paranoia. *Arch. f. Psych. u. Nervenkrankh.*, 1925, lxxv, 665.
25. Fröhlich, P.: Spätzustände des manisch-depressiven Irreseins. *Inaug.-Dissert.*, Tübingen. 1910.
26. de Fursac, R.: Quoted by Deron.
27. Geist: Über die Klassifikation der Psychosen, besonders der periodischen. *Allg. Zeitschr. f. Psych.*, 1908, lxiv, 48.
28. Genil-Perrin, L.: *Les paranoïaques.* Paris. 1926.



29. Gierlich, N.: Systematisierter Grössenwahn auf submanischer Grundlage bei einem Soldaten an der Front. *Med. Klinik*, 1918, xiv, 562.
30. Godard: Manie chronique et démence incomplète. *Encéphale*, 1925, xx, 62.
31. Greenacre, P.: The content of the schizophrenic characteristics occurring in affective disorders. *Amer. Jour. Insan.*, 1918-1919, lxxv, 198.
32. Hamel, J. and P. Vernet: Contribution à l'étude de la manie chronique. *Encéphale*, 1921, 16th year, 515.
33. Hartung, E.: Ein Fall von Spätheilung einer Psychose. *Zeitschr. f. d. ges. Neurol. u. Psychiatr.*, 1922, lxxx, 432.
34. Henderson, D. K. and R. D. Gillespie: A textbook of psychiatry for students and practitioners. Oxford University Press, 1927.
35. Hitzig, E.: Über den Querulantenwahnsinn. Seine nosologische Stellung und seine forensische Bedeutung. Leipzig, 1895.
36. Hoch, A.: Manic-depressive insanity. Reference handbook of the medical sciences. Ed. by A. H. Buck. New York. 1902, v.
37. Hoch, A.: Mania. Reference handbook of the medical sciences. Ed. by A. H. Buck. New York. 1902, v.
38. Homburger, A.: Die Literatur des manisch-depression Irreseins 1906-1910. *Zeitschr. f. d. ges. Neurol. u. Psychiatr.*, Ref., 1911, ii, 753 u. 865.
39. Von Hösslin: Beiträge zur Kenntnis des Verlaufes und Ausganges des manisch-depressiven Irreseins. *Zentralbl. f. Nervenheilk.*, 1909, xxxii, 619.
40. John, K.: Hypomanie und Querulantenwahn. *Zeitschr. f. d. ges. Neurol. u. Psychiatr.*, Ref., 1910, i, 228.
41. Jolly: Über Irrthum und Irrsinn. Berlin. 1893.
42. Jung, C. G.: Über manische Verstimmung. *Allg. Zeitschr. f. Psychiatr.*, 1904, lxi, 15.
43. Kahn, P.: Un cas de délire de persécution chez un excité maniaque. *Encéphale*, 1912, vii, 475.
44. Kirby, G. H.: Chronic forms of manic-depressive insanity. *New York State Hospital Bull.*, 1911-1912, iv, 401.
45. Koch, J. L. A.: Leitfaden der Psychiatrie. 2nd ed.
46. Köppen, M.: Der Querulantenwahnsinn in nosologischer und forensischer Beziehung. *Arch. f. Psych. u. Nervenkrankh.*, 1896, xxviii, 221.
47. Kraepelin, E.: Compendium der Psychiatrie. Leipzig. 1883.
48. Kraepelin, E.: Einführung in die psychiatrische Klinik. Vol. iii. Leipzig. 1921.
49. Kretschmer, E.: Wahnbildung und manisch-depressiver Symptomenkomplex. *Allg. Zeitschr. f. Psychiatr.*, 1915, lxxi, 397.
50. Kreuser, T.: Spätgenesungen bei Geisteskrankheiten. *Allg. Zeitschr. f. Psychiatr.*, 1900, lvii, 771.
51. Kreuser, H.: Drei Fälle von Spätgenesung. *Allg. Zeitschr. f. Psychiatr.*, 1912, lxix, 448.

52. Kreuser, H.: Über Geistesstörungen im höheren Lebensalter und ihre Genesungsansichten. *Allg. Zeitschr. f. Psychiatr.*, 1915, lxxi, 1.
53. Laignel-Lavastine, M. and J. Vinchon: La manie chronique. *Essai de tableau clinique*. *Ann. méd.-psych.*, 1921, lxxix, 203.
54. Lange, J.: Kataleptische Erscheinungen im Rahmen manischer Erkrankungen. *Monogr. a. d. Gesamtgeb. d. Neur. u. Psychiatr.*, Berlin, 1922.
55. Lange, J.: Der manisch-depressive Irresein. *Klin. Wochenschr.*, 1925, iv, 1577.
56. Lapinski: Ein Fall von chronischer Manie. *Neurol. Zentralbl.*, 1909, xxviii, 779.
57. Lehmann, R.: Paranoia, Affekt, Verfolgungswahn, Grössenwahn. *Psychiatr.-Neurol. Wochenschr.*, 1909, xi, 321.
58. Leroy and Baucouin: Un cas de manie chronique d'emblée. *Bull. de la Soc. clinique de méd. ment.*, 1914, vii, 13.
59. Löwy, M.: Beitrag zur Lehre vom Querulantenwahn. *Zentralbl. f. Nervenheilk. u. Psychiatr.*, 1910, xxxiii, 81.
60. MacDonald, J. B.: Prognosis in manic-depressive insanity. *Jour. of Nerv. and Ment. Dis.*, 1918, xlvii, 20.
61. Maier, H. W.: Über katathyme Wahnbildung und Paranoia. *Zeitschr. f. d. ges. Neurol. u. Psychiatr.*, 1912, xiii, 555.
62. Masselon, R.: Les psychoses associées (Psychose maniaque-dépressive et délire d'interprétation). *Ann. méd.-psychol.*, 1912, lxx, 641.
63. Mayberry, C.: Self-inflicted injury in a case of chronic mania, followed by a cephalæmatoma, facial erysipelas, incision into the blood tumor and a lucid interval. *Jour. of Nerv. and Ment. Dis.*, 1894, xxi, 298.
64. Mendel, E.: Die Manie. Wien u. Leipzig. 1881.
65. Mendel, E.: Eulenburg's Real-Encyclopædie der gesanten Heilkunde. 1907-1914, xv, 558.
66. Meyer, Adolf: The relation of emotional and intellectual functions in paranoia and in obsessions. *Psychol. Bull.*, 1906, iii, 255.
67. Meyer, Adolf and G. H. Kirby: Notes of clinics in psychopathology. New York. 1908.
68. Meyer, H.: Über manische Erregungszustände in Greisenalter. *Inaug.-Diss. Kiel*. 1919.
69. Nitsche, P.: Über chronisch-manische Zustände. Zugleich ein Beitrag zur Lehre von den krankhaften Persönlichkeiten. *Allg. Zeitschr. f. Psychiatr.*, 1910, lxvii, 63.
70. Ostankoff, P.: Die Phasen der Manie. *Archiv. f. Psych. u. Nervenkrankh.*, 1914, liv, 368.
71. Panse, F.: Untersuchungen über Verlauf u. Prognose beim manisch-depressiven Irresein. *Monatsschr. f. Psychiatr. u. Neurol.*, 1924, lvi, 15.
72. Pfeilschmidt: Über einen Fall von chronischer Manie. *Archiv. f. Psychiatr.*, 1921, lxii, 560.
73. Régis: Quoted by Deron et al.

74. Rehm, O.: Verlaufsformen des manisch-depressive Irreseins. Zentralbl. f. Nervenheilk. u. Psychiatr., 1907, xxx, 480.
75. Rehm, O.: Das manisch-melancholische Irresein. Berlin. 1919.
76. Reich: Zur Symptomatologie der Manie u. verwandter Krankheitsformen. Allg. Zeitschr. f. Psychiatr., 1908, lxxv, 501.
77. Reichardt, M.: Allgemeine und spezielle Psychiatrie. 2 Aufl. Jena. 1918.
78. Renault, A.: Le syndrome manie chronique. Symptomatologie-Diagnostic. Thèse. Paris. 1920.
79. Rittershaus, E.: Die klinische Stellung des manisch-depressiven Irreseins. Zeitschr. f. d. ges. Neurol. u. Psychiatr. 1920, lvi, 10.
80. Rittershaus, E.: Die chronische Manie und ihre praktische Bedeutung. Allg. Zeitschr. f. Psychiatr., 1923, lxxix, 209.
81. Robin, G., M. Cénac and J. Durand-Saladin: Les états maniaques d'origine psychique. Ann. méd.-psychol., 1926, i-ii, 57.
82. von Rohden, F.: Konstitutionelle Körperbauuntersuchungen an Gesunden und Kranken. Archiv. f. Psychiatr. u. Nervenkrankh., 1927, lxxix, 786.
83. Saiz: Untersuchungen über die Aetiologie der Manie. Berlin. 1907.
84. Sanger Brown II: Chronicity and deterioration in manic-depressive cases. Amer. Jour. of Insan., 1914, lxx, 765.
85. Schilder, P.: Vorstudien zur einer Psychologie der Manie. Zeitschr. f. d. ges. Neurol. u. Psychiatr., 1921, lxxviii, 90.
86. Schmitt, H.: Spätheilung von Psychosen. Inaug.-Diss. Freiburg, i. Br. 1904.
87. Schott, A.: Klinischer Beitrag zur Lehre von der chronischen Manie. Monatsschr. f. Psychiatr. u. Neurol., 1904, xxi, 1.
88. Schüle, M.: Klinische Psychiatrie. Leipzig. 1881.
89. Séglas, J.: Quelques considerations sur les accès maniaques chez les débiles. Ann. méd.-psychol., 1914, lxxii, 1.
90. Siefert, E.: Über chronische Manie. Allg. Zeitschr. f. Psychiatr., 1902, lix, 261.
91. Sigel, J.: Beitrag zur Frage der Spätgenesung von Psychosen. Allg. Zeitschr. f. Psychiatr., 1905, lxii, 325.
92. Singer, H. D.: The so-called mixed states and atypical forms of manic-depressive insanity. Amer. Jour. Insan., 1915, lxx, 747.
93. Snell: Merkwürdige Genesungsfälle aus der psychiatrischen Praxis. Allg. Zeitschr. f. Psychiatr., 1856, xiii, 537.
94. Snell: Über die Monomanie als primäre Form der Seelenstörung. Allg. Zeitschr. f. Psychiatrie, 1865, xxii, 368.
95. Specht, G.: Über den pathologischen Affekt in der chronischen Paranoia. Festschr. d. Universität Erlangen. Erlangen. u. Leipzig. 1901.
96. Specht, G.: Chronische Manie und Paranoia. Zentralbl. f. Nervenheilk. u. Psychiatr., 1905, xxviii, 590.
97. Specht, G.: Über die klinische Kardinalfrage der Paranoia. Zentralbl. f. Nervenheilk. u. Psychiatrie, 1908, xxxi, 817.
98. Stransky: Das manisch-depressive Irresein. Aachenburg: Handbuch d. Psychiatrie, vi. Leipzig u. Wien 1911.

99. de Teyssieu, M.: La manie Présénile. Thèse. Bordeaux. 1911.
100. Thalbitzer, S.: Manischer Wahnsinn. Zeitschr. f. d. ges. Neurol. u. Psychiatr. 1910, i, 341.
101. Thomsen: Dementia præcox und manisch-depressives Irresein. Allg. Zeitschr. f. Psychiatr., 1907, lxiv, 631.
102. Thursch, D.: Transformationen im klinischen Verlauf der Manie. Dissertation. Berlin. 1906.
103. Tiling, T.: Die Moral insanity beruht auf einem excessiv sanguinischen Temperament. Allg. Zeitschr. f. Psychiatr., 1900, lvii, 205.
104. Validire, F.: Statistique de 1251 cas de manie et de mélancholie. Contribution à l'étude de la folie maniaque-dépressive. Thèse de Bordeaux. 1908.
105. Walker: Über manische und depressive Psychosen. Archiv. f. Psychiatr. u. Nervenkrankh., 1907, xlii, 788.
106. Wernicke, C.: Grundriss der Psychiatrie in klinischen Vorlesungen. 2 Aufl. Leipzig. 1906.
107. Wertham, F. I.: The incidence of growth disorders in 923 cases of mental disease. Archiv. of Neurol. and Psychiat., 1929, xxi, 1128.
108. White, W. A.: Outlines of psychiatry. Washington. 1923.
109. Wieg-Wickenthal: Zur Klinik der Dementia præcox. Halle. 1908.
110. Wilmanns, K.: Zur Differentialdiagnostic der "funktionellen" Psychosen. Zentralbl. f. Nervenheilk. u. Psychiatr., 1907, xxx, Neue Folge xviii, 569.
111. Wilmanns, K.: Zur klinischen Stellung der Paranoia. Zentralbl. f. Nervenheilk. u. Psychiatr., 1910, xxxiii, 204.

## TESTS OF REACTION-TIME AND MOTOR INHIBITION IN THE PSYCHOSES.

By ELEANORA B. SAUNDERS, Ph. D., M. D.,

*Assistant Physician, Sheppard and Enoch Pratt Hospital; Fellow in  
Psychology, The Johns Hopkins University;*

AND

SCHACHNE ISAACS, M. A.,

*Associate in Psychology, The Johns Hopkins University.*

### INTRODUCTION.

The desirability of supplementing psychiatric clinical observation by psychological experimental methods has been urged by both psychiatrists and psychologists. Hoch<sup>1</sup> in "A Review of Some Psychological and Physiological Experiments Done in Connection with the Study of Mental Diseases," in 1904, refers to Kraepelin<sup>2</sup> as the pioneer in this field, and writes, "Experiment will not replace clinical observation, and it would be short-sighted to suppose that all that may be found out by a mere study of the cases without the aid of tests has already been discovered. But experiment will help to a finer analysis of symptoms, and clinical observation and experiments will mutually aid each other, each furnishing problems for the other, and each assisting the other in the further elaboration of the results, for after all the methods do not differ essentially." Woodworth,<sup>3</sup> in 1906, in an address, "Psychiatry and Experimental Psychology," before the annual meeting of the American Medico-Psychological Association, points out the nature of the possible working relation between psychiatry and psychology. "The psychiatrist is, to be sure, concerned primarily with divergencies from the normal, many of which are so obtrusive as to require no special devices for their detection. That the paranoiac is deluded, the maniac excited, the hysteric unstable and suggestible, that certain patients suffer from hallucinations, or from amnesia, or from confusion, the common methods of observation sufficiently show. Moreover experimental methods cannot supplant and make

unnecessary the methods of clinical observation that have gradually been developed in the experience of alienists. Just so, in the general practice of medicine, the thermometer, the test-tube and the microscope have not supplanted the less special methods of clinical observation. But just as recent progress in medicine is largely due to the introduction of special methods from the sciences that have developed them, so it would seem that the path of progress in psychiatry, in so far as it lies in the direction of the differentiation of mental symptoms and in the understanding of the mental condition of the patient, will probably run parallel to the path of progress in psychology, the path of experiment." In view of the evident truth of this idea and the rapid development of psychological testing technique in recent years, it is surprising and disappointing how little progress, in either theory or practice, has been made in this direction. Attempts to apply psychological experimental methods to psychiatric problems have been relatively few and the results obtained have been for the most part without great practical significance.

The present investigation, on the reaction-time and motor inhibition in several types of psychosis, was prompted by these considerations and inspired by the optimistic but as yet unfulfilled pronouncement of Scripture 'in 1916 that "it should be quite possible to develop more complicated forms of reaction whose variations will give diagnoses directly in results." "In other words, it is my belief," he says, "that the reaction test can be made so complete and reliable that a diagnosis of epilepsy, hysteria, general paralysis, etc., can be obtained as surely and accurately as one of diabetes or chronic nephritis from a urinary analysis."

With the perfection of reaction-time technique and the interest in reaction-time as an apparently elemental process early in the development of experimental psychology investigators have from time to time attempted its application, using simple, discrimination, choice, and association reactions, to the study of the psychoses. Summaries of research in which simple reaction-time has been so employed are given by Franz, 1906, and Wells and Kelley, 1922.<sup>1</sup> Two measures of performance are available in comparing the psychotic subject with the normal, (1) the average (or other measure of central tendency) of the series of reaction-times of the indi-



vidual, and (2) the variability in the series expressed as the average or standard deviation or better in terms of relative variability where the "variation-coefficient" is the ratio between the mean variation and the average.\* The variability indicates the uniformity or constancy of reaction in the series and is taken as a measure of the stability or steadiness of attention. A short series taken in one sitting from an untrained subject where practice or fatigue effects are not factors, is by this treatment regarded as a single situation or performance. The various investigators conclude generally that in the psychoses the average reaction-time is lengthened and that the variability is greater or different in type. Thus Wells and Kelley (1922) sum up their report with the statement (p. 59): "These experiments accord with previous work in finding reaction-times generally lengthened in psychosis. Individual differences are increased save in the schizophrenic group. The manic-depressive group alone shows a normally small amount of fluctuation of attention to the reaction process. . . . In general, while normal performances in these functions are to be found individually under any diagnosis, markedly abnormal performances are more characteristic of malign conditions." Lundholm (1922), who was concerned with the type of variability in the reactions as an indicator of "unsatisfactory attentiveness" or "attentional disturbance," concludes (p. 314): "The sum total of the laboratory results seems to indicate that the most significant laboratory symptom of disorder or disturbance is the steadiness of the performance—that is, the standard deviation both for the individual instances of experimentation and from day to day. . . . The instability of performances in the psychotic subjects employed is to be considered primarily as a manifestation of an attentional disturbance."

The specific problem of this investigation is to determine (1) whether there is a significant difference, that might be used for diagnostic purposes, in the average time of reaction of various types of psychotic subjects as compared with the normal and (2) whether there is a significant difference in the degree or type of variability in the reactions. A supplementary investigation on "Motor Inhibition" was undertaken with a type of performance involving in a sense the opposite behavior attributes from those at work in the reaction-time test.

## I. REACTION-TIME EXPERIMENT.

## METHOD AND APPARATUS.

A gray cardboard screen, 30 by 15 cm., with a 4 cm. square window cut out near one end, was mounted before the drum of a Dunlap synchronous motor kymograph<sup>7</sup> in horizontal plane. The kymograph was driven by a 50 vibration fork, the drum, 49.4 cm. circumference, making one revolution in 36.4 seconds, giving a time equivalent of .736 second to 1 cm. The window in the screen exposed the revolving drum upon which were drawn three white lines, to each of which the subject was instructed to react by pressing with his right index finger a telegraph key, which recorded on the drum, but out of the subject's sight, by an electric signal marker, at the first appearance of the line at the top of the window, the crossing of the line at the middle of the window, the sides of which were marked by lines at this point, and at the disappearance of the line at the bottom of the window. The three lines were drawn so that the first appeared at the top of the window 7.5 seconds after the drum started, which served as the "ready" signal, the second 6.3 seconds after the first line had disappeared, and the third 8.5 seconds after the second had disappeared. The times between the appearance, crossing, and disappearance of the line in the window were each 1.554 seconds. A chin rest was adjusted for each subject to place his eyes in direct line with the window and to hold the head constant in position. After the subject had made the nine reactions for one revolution of the drum, the drum was stopped by the clutch mechanism, the signal marker moved along .5 cm., and the nine reactions repeated, making possible 50 or more sets of nine reactions for one sitting. The actual number of sets of reactions given varied from 31 to 54, average 48, requiring a sitting of from 32 to 37 minutes. The experiments were conducted in the late afternoon and early evening in a quiet room adjacent to but removed from the wards.

To measure the time of reaction the drum was marked off by nine horizontal lines indicating the exact coincidence of the point of touching of the signal marker and the appearances, crossings, and disappearances of the lines in the window. The displacement of the reaction from these lines was measured by a vernier caliper to .1 mm., a time equivalent of .007 second, or 7 sigma. The

kymograph record gave a complete picture of the performance, prereaction period, reaction time, including premature reactions, time of holding key, and interval between reactions.

#### SUBJECTS.

The subjects for this experiment were 31 patients at the Shepard and Enoch Pratt Hospital classified by diagnosis as follows:

Schizophrenia .....	14
Manic Depressive—Depressed .....	7
Manic Depressive—Excited .....	2
Psycho-neurosis .....	5
Organic Brain Diseases	
Paresis .....	1
Encephalitis .....	1
Arterio-sclerosis .....	1

All of the patients, except one, were female. Their occupations previous to admission were the following: Housewives 13, students 4, clerks 4, and one each, comptometer operator, stenographer, accountant, teacher, pharmacist, administrative secretary, hairdresser, corsetier, nurse, and librarian. Their age distribution was as follows:

15 to 19 years .....	2
20 to 24 years .....	4
25 to 29 years .....	1
30 to 34 years .....	2
35 to 39 years .....	7
40 to 44 years .....	4
45 to 49 years .....	4
50 to 54 years .....	5
55 to 59 years .....	0
60 to 64 years .....	2

A group of 28 normal persons, serving as a control group, was taken from the employees of the hospital who were willing to serve as subjects. Of these, six were male and 22 female, and their occupations were nurses 12, occupational aides 7, physicians 3, librarians 2, and one each stenographer, housewife, telegraph operator, and student. Their age distribution was as follows:

20 to 24 years .....	5
25 to 29 years .....	6
30 to 34 years .....	9
35 to 39 years .....	3
40 to 44 years .....	4
45 to 49 years .....	1

## RESULTS.

There are three conditions of reaction each in three series in the experiment, designated as follows:

- I. A. First appearance of the line at the top of the window.  
B. Crossing of the line at the middle of the window.  
C. Disappearance of the line at the bottom of the window.
- II. A. Second appearance of the line.  
B. Crossing.  
C. Disappearance.
- III. A. Third appearance of the line.  
B. Crossing.  
C. Disappearance.

Conditions A in series I, II, and III, are of the nature of "Simple Reaction-time," while conditions B and C are that of the so-called "Complication-time Reaction."

For each of these nine series for each subject the mean of the reaction-times from the algebraic sum of all reactions, treating the premature reactions as minus quantities (except in conditions A where premature reactions—43 out of 25,779 reactions—were discarded), was determined. Likewise the mean variation was determined and converted to per cent of the mean ("variation-coefficient") as an index of the constancy or stability of the subject's behavior in this situation. Tables 1, 2, and 3 present the distributions of means in conditions A, B, and C, respectively for the normal group and for the groups of schizophrenic, depressed, psycho-neurotic, excited, and organic patients. The letters A, E, and P in the organic group refer to arterio-sclerotic, encephalitic, and paretic patients. Tables 4, 5, and 6 present in the same way the distributions of the relative variability or variation-coefficients.

It can readily be seen from inspection of these tables that there is a wide range of reaction-time and variability in the normal group from which the psychotic groups (with the outstanding exception of the paretic subject in reaction-time) do not markedly differ. There is one suggestive difference between the normal and the psychotic generally, and that is, the greater tendency for the latter to give negative displacement or anticipatory reactions in conditions B and C, where the line is in sight and the reactions must be made when it crosses the middle of the window and when it disappears at the bottom. In condition B, 45.1, 51.6, and 58.1 per cent of the patients give a negative mean reaction as against 21.4, 32.1 and

32.1 per cent of the normals in series I, II, and III respectively. In condition C, 64.5, 61.3, and 61.3 per cent. of the patients gave a negative mean reaction as against 35.7, 35.7, and 32.1 per cent of the normals.

TABLE 1  
A. REACTION-TIME. MEANS

Sigma	I						II						III					
	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic
	28	14	7	5	2	3	28	14	7	5	2	3	28	14	7	5	2	3
42	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..
84	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
126	1	2	1	..	1	..	..	1	..	..	..	..	3	1	..	..	..	..
168	2	..	..	..	..	..	4	..	1	..	..	..	1	..	..	..	..	..
210	2	..	..	1	..	..	6	..	..	1	..	..	3	..	1	2	..	..
252	2	2	..	1	..	..	1	1	2	..	..	..	3	2	..	1	..	..
294	6	1	1	1	..	..	3	1	..	1	..	..	*6	2	1	..	1	..
336	*9	1	3	..	..	A	*2	3	..	2	..	..	4	2	1	..	1	..
378	..	2	..	1	1	..	5	3	1	..	1	..	2	2	..	2	..	..
420	4	1	..	..	..	..	2	1	..	1	..	A	4	2	..	..	..	..
462	1	1	..	..	..	..	3	2	..	..	..	..	1	..	..	..	A	..
504	..	..	1	..	..	..	2	..	..	..	..	..	2	..	1	..	..	E
546	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	E
588	1	1	..	..	..	E	..	1	1	..	..	..	..	1	1	..	..	..
630	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..
672	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
714	..	..	1	..	..	..	..	..	1	..	..	E	..	1	..	..	..	..
756	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..
798	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
840	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
882	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
924	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
966	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1018	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1050	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1092	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1134	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1176	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1228	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1260	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1302	..	..	..	..	..	P	..	..	..	..	..	..	..	..	..	..	..	..
1344	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1386	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1438	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1470	..	..	..	..	..	..	..	..	..	..	..	P	..	..	..	..	..	P
1512	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Median	342.9						346.5						325.5					

\* Median class.

TABLE 2  
B. COMPLICATION-TIME. MEANS

	I						II						III					
	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic
Sigma	28	14	7	5	2	3	28	14	7	5	2	3	28	14	7	5	2	3
(lower limit of class)																		
—294	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
—252	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
—210	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	E
—168	..	..	..	1	..	E	1	..	1	..	E	..	1	2	..	1	..	..
—126	1	3	2	..	1	..	2	3	2	..	..	..	1	2	..	..	1	..
—84	2	2	..	1	..	..	1	..	2	1	..	..	2	1	2	1	1	..
—42	3	..	..	..	..	A	5	3	..	1	1	..	6	2	1	1	..	A
0	7	4	..	..	1	..	5	4	1	..	A	..	*8	3	..	1	..	..
42	*5	1	3	1	..	..	*3	2	2	1	..	..	6	3	..	..	..	..
84	4	1	..	1	..	..	5	..	1	..	..	..	1	..	..	..	..	..
126	4	1	1	..	..	..	1	1	..	..	..	..	2	..	2	..	..	..
168	..	..	1	..	..	..	2	..	1	..	..	..	..	1	..	..	..	..
210	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
252	..	..	..	..	..	..	2	..	..	..	..	..	1	..	1	..	..	..
294	1	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..
336	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
378	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
420	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
462	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
504	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
546	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
588	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
630	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
672	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
714	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
756	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
798	..	..	..	..	..	P	..	..	..	..	..	..	..	..	..	..	..	..
840	..	..	..	..	..	..	..	..	..	..	..	P	..	..	..	..	..	P
882	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
924	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Median	54.6						49.0						28.6					

\* Median class.



TABLE 3  
C. COMPLICATION-TIME. MEANS

	I						II						III					
	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic
Sigma	28	14	7	5	2	3	28	14	7	5	2	3	28	14	7	5	2	3
—504	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
—462	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
—420	..	..	1	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..
—378	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
—336	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
—294	1	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..
—252	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	E
—210	..	1	..	1	..	A	2	2	..	2	..	..	..	1	..	1	..	A
—168	..	2	..	1	..	E	..	4	..	..	..	..	..	2	..	2	..	..
—126	..	2	..	..	..	..	2	..	..	..	..	A	..	..	..	..	..	..
—84	5	2	..	..	1	..	3	3	..	1	1	E	3	2	..	..	2	..
—42	4	1	1	1	1	..	3	..	1	..	1	..	5	2	1	1	..	..
0	3	2	2	..	..	..	4	3	..	2	..	..	5	2	1	1	..	..
42	*10	1	1	1	..	..	*5	2	4	..	..	..	*9	2	1	..	..	..
84	..	1	1	..	..	..	1	..	..	..	..	..	3	1	1	..	..	..
126	3	1	..	..	..	..	4	..	..	..	..	..	..	1	..	..	..	..
168	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
210	2	..	..	..	..	..	2	..	..	..	..	..	1	..	1	..	..	..
252	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
294	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
336	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
378	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
420	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
462	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
504	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
546	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
588	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
630	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
672	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
714	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
756	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
798	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
840	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
882	..	..	..	..	..	P	..	..	..	..	..	P	..	..	..	..	..	..
924	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	P
966	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Median	48.3						46.2						44.3					

\* Median class.

TABLE 4  
A. RELATIVE VARIABILITY

	I						II						III					
	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic
	28	14	7	5	2	3	28	14	7	5	2	3	28	14	7	5	2	3
(lower limit of class)																		
0	5	..	1	..	..	..	4	..	2	1	..	..	5	..	1	..	1	..
11	*12	3	4	2	1	..	*11	3	3	1	1	P	*16	5	3	1	1	P
21	7	4	1	2	..	E, A	7	7	..	1	1	E, A	3	5	3	2	..	E, A
31	3	3	..	..	..	..	3	3	2	1	..	..	3	3	..	..	..	..
41	1	1	..	..	..	..	1	1	..	..	..	..	..	3	..	1	..	..
51	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
61	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
71	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
81	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..
91	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
101	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
111	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
121	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
131	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
141	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
151	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
161	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
171	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
181	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
191	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
201	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
211	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
221	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
231	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
241	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
251	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Median	18.6						18.4						15.7					

\* Median class.

TABLE 5  
B. RELATIVE VARIABILITY

	I						II						III					
	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic
Per cent	28	14	7	5	2	3	28	14	7	5	2	3	28	14	7	5	2	3
0	..	..	..	..	..	P	..	..	..	..	..	P	..	..	..	..	..	P
11	1	1	..	..	..	..	3	..	..	..	..	..	2	1	1	..	..	..
21	5	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
31	3	..	2	..	..	..	1	2	..	..	..	..	..	1	1	1	..	..
41	1	2	1	1	..	..	3	..	1	..	..	..	2	..	1	1	..	E
51	1	1	1	..	..	E	2	1	1	..	..	E	3	2	2	..	..	..
61	2	1	1	..	..	..	2	..	..	..	..	..	2	..	..	..	1	..
71	*2	1	..	..	1	..	*3	2	2	..	..	..	1	..	..	..	..	..
81	..	..	..	..	..	..	1	..	1	1	..	..	3	1	..	..	..	..
91	1	1	1	1	..	..	1	1	..	..	..	..	1	1	..	..	..	..
101	2	..	1	..	..	..	2	1	..	..	..	..	2	..	..	..	..	..
111	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..
121	1	..	..	1	..	..	1	..	1	1	..	..	*1	..	..	..	..	..
131	1	..	..	..	..	..	1	..	1	..	..	..	1	1	..	1	..	..
141	..	..	1	..	..	..	1	1	..	1	..	..	1	..	..	..	1	..
151	1	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	1	..
161	..	..	..	..	..	..	1	..	..	..	..	..	1	1	..	..	..	..
171	..	1	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..
181	1	1	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..
191	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
201	..	..	..	..	..	A	..	..	..	..	..	..	..	..	..	..	..	..
211	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
221	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
231	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
241	..	..	..	..	..	..	1	..	..	..	..	A	2	..	..	..	..	..
251	1	..	..	..	..	..	1	1	..	..	..	..	1	..	..	..	..	..
261	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
271	1	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..
281	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..
291	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
301	1	1	..	..	..	..	1	1	..	..	..	..	1	1	..	..	..	..
401	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	A
501	..	1	..	..	..	..	..	..	..	..	..	..	2	..	1	..	..	..
600+	3	1	..	..	1	..	..	2	1	..	..	..	1	2	..	..	..	..
Median	78.5						72.6						126.0					

\* Median class.

TABLE 6  
C. RELATIVE VARIABILITY

	I						II						III					
	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Organic
	28	14	7	5	2	3	28	14	7	5	2	3	28	14	7	5	2	3
0	1					P						P						P
11	1						1								1			
21	1	1	1	1			2	1	1									
31	2	2					2						2	1	1	1		
41	1	1		1			3	2	1	2			1	1	1			A
51	1		1			A	3	1	1				2	3	1	1		
61	2			1		E	2						1	2				E
71	2	1		1			*2	1	1				2	1		1		
81	2	2											3					
91	1		1					2				A	1				1	
101							3	1	1	1			1					
111	*2		1	1			1											
121	1	1					1		1		1							
131							1	2					*2	1	1			
141	1												1					
151	1						1						1					
161	1	1	1											1				
171	1						1					E	1	1	1			
181													1					
191					1													
201	1												1	1				
211		2						1					2					
221																	1	
231	1							1										
241	1						1											
251									1									
261		1																
271		1						1					1	1				
281													1					
291	1				1													
301	1			1						1				1				
401			1								1		1					
501	1												1			1		
600+	1	1	1				4	1		1			2		1	1		
Median	113.5						88.5						138.5					

\*Median class.

## CASE FORMULATIONS.

The following are brief case abstracts including formulations of the general statement about the patient, his early environmental setting where it is an outstanding feature, a short description of the type of reaction of mental illness, general behavior or phase of development at the time the test was done, and his reaction to the procedure in the test. The case histories, designated by the patients' record numbers, are arranged in clinical groups of schizophrenia, manic-depressive, psycho-neurosis, and organic brain disease.

## SCHIZOPHRENIC PATIENTS.

No. 4.—A woman, aged twenty-one, was dreamy and somewhat silly. There was apparently unprovoked laughter and she talked frequently of "trying to understand life." She was hallucinated and very sensitive to "criticism." She spoke of inferiority and withdrew from contact with others, had ideas of self-reference and there was day dreaming. While she had been in this condition for several years she still felt she was not improving and thought she could secure help "which she needed" by returning to the hospital in which she had previously been placed or by going to another. Most of her day was spent in fantasy to the extent that she was indifferent about her surroundings, and was unable to keep her attention fixed on any assigned duty. With the test, the novelty of the situation and the possibility of "finding life," made her eager, and intent on the procedure.

No. 6.—After a disappointment in her second marriage, the patient, forty-nine years of age, developed ideas referable to the gastro-intestinal tract. Negative results of examinations did not reassure her. She began to think that she and her daughter were watched, were photographed, and that her daughter would be punished for her "youthful indiscretions." There were efforts at protection in closing up the house, withdrawal from friends, and a discontinuance of work. She developed confusion, fear of being alone and feelings of self-reference—casual remarks, color of clothing, minor gestures of associates "referred to her." Even though there were suspicion and the necessity of protective measures with almost every occurrence she was willing to do the test and was deft in her method of response. She moaned and complained of her condition and later thought there was a meaning in the test. She complained of weakness and of being "too sick to do such a thing."

No. 8.—A young girl, an expert typist with difficult family situation, developed a gradual change in personality shown in brooding, in laughing and crying. She harped on "the past mistakes" and had feelings of having lost all memory, all knowledge. In the hospital she was dreamy, indolent,

somewhat irritable, with feelings of being discriminated against. At this time her condition underwent great dilapidation and she spent much time with sex ruminations and in looking at her features in the mirror. During the procedure she was interested, alert, and efficient in the process of the test. She was somewhat boastful when talking of her attempt.

No. 10.—A woman in the involution period developed depression with marked tension and delusions of alteration in her body. There were uneasiness, fear of "losing her mind," and ideas of persecution directed to herself and to her husband. At about this time she was tense and hallucinated, and repeated, "Let me see my husband before I am killed." During the test she moaned and said, "I may as well starve myself to death," but she maintained uninterrupted application to the procedure.

No. 12.—A girl, sixteen years of age, a maladjusted child, had lived in an unsettled family environment in which a psychotic uncle, a "nervous" mother and an unstable grandmother played a part. There was a personality change at ten with development of feelings of inferiority and resentment against authority. There were difficulties in school and at home of such a degree that hospital care was necessary. At this time she was moody, at times aggressive, impulsive, showed odd behavior and an emptiness of content of thought. During the experiment she was overactive, somewhat boisterous but showed pleasure in the new experience. She was curious about the make-up of the apparatus and the procedure of the test. Though she was restless she completed the test satisfactorily.

No. 18.—The patient, forty years of age, was "nervous," had screaming spells, complained of choking sensations and had unprovoked laughing and crying. There had been prolonged semi-invalidism probably psychogenic in origin. When admitted to the hospital she was unstable, hallucinated, was much preoccupied with erotic day dreams, accompanied by silly laughter. There were "visions" of a pleasurable nature extending over a period of months. At the time of the test she was silly and erotic but willing to do the experiment. She maintained a sufficiently attentive attitude but was laughing in a silly manner continuously. During the procedure she hallucinated a beard on her face and thought it had become entangled in the apparatus. This was probably suggested by the chin rest and the movement of the kymograph.

No. 20.—A woman patient, about forty, is a shy, seclusive type. She developed ideas that the neighbors were plotting against her. She closed her house to avoid their scrutiny and became restless and fearful. There were auditory hallucinations, and a belief that electrical wires were about her. In the hospital she was tense and agitated, but gentle in manner. She was frequently seen walking about the ward weeping, wringing her hands in a hopeless manner. At about the time of the test she was cooperative but preoccupied with doubts and delusions of her safety and that of her family. While she was cooperative she had no interest in the procedure which she carried out in a mechanical fashion. During the time she was moaning or sighing.



No. 34.—Patient, aged thirty-seven, spoiled and indulged was brought up in ultra-religious family with little social outlet. She taught school and cared for her invalid father. With the critical attitude of her associates she developed ideas of self-reference and of persecution. In the hospital she was seclusive, had episodes of weeping, was hallucinated, and felt she was "entirely well," that she should be at home, and that she was held unjustly in the hospital. Much time was spent in day dreaming. At this time she was somewhat resistive and difficult. The test reminded her of her school work and "afforded pleasure." She showed poise and self-control during the procedure but immediately upon its completion she became hallucinated, and wished to know the meaning of it.

No. 38.—A young school teacher, who found her work a strain, developed an acute episode of a delirium-like condition in which there were many misinterpretations and ideas of self-reference. She became calmer but was easily confused with any effort, at which time there were feelings of inadequacy and a greater tendency to see meanings of personal reference. At about the time of the test she was somewhat uncertain and puzzled about casual activities. She was a little concerned about the meaning of the test but seemed to enjoy the experience.

No. 42.—A woman, thirty-seven years of age, previously employed as a teacher and stenographer developed eccentric behavior. She wrote anonymous letters of slanderous nature and had a tendency to leave home on prolonged journeys. Increasing difficulties of adjustment resulted in her admission to the hospital where she was discontented and felt herself discriminated against. There was a desire for perfection, marked impulsiveness and attempts at suicide. At the time of the test she was indolent, but talked of her capacity as a secretary and of a lack of opportunity for work while in the hospital. Her reaction to the test was that of extreme pleasure, a desire to "excel all others" and a wish to compare her work with the others. She wished an opportunity to repeat the experiment. During the time she was deliberate and attentive.

No. 44.—Patient, aged thirty-nine, had a mental illness at sixteen, was nervous, easily disturbed, somewhat critical and meticulous in detail of work. Later she became irritable and there was a gradual "increase in the intensity of her nervousness." There were scolding and overactivity followed by "hysterical episodes." She became erratic, accused people, and talked of "the dead." Within a short time she was noisy, impulsive and difficult. In the hospital she had a prolonged period of excitement associated with fantastic delusions. At about the time of the test she was fairly quiet but somewhat boastful. She had no insight into her condition and had no interest in her surroundings. With the test she was grandiose and confident and during the procedure she talked in a rambling fashion of herself and her family but was able to maintain fixed attention to the test.

No. 54.—A nurse, thirty-six years of age, who had had a rather prolonged period of poor adjustment to her work, became so disturbed that continuous hospital care had been necessary for a period of several years.

She was indifferent, impulsive, hallucinated, and denied her identity. She had many delusions of unfair treatment, sex preoccupations and auditory hallucinations. Though she was untidy and lounged about the ward, she reacted to the test with interest and a degree of enthusiasm.

No. 56.—A woman, forty years of age, of eccentric family, had found adjustment to marriage difficult over a period of fifteen years. There had been a previous mental illness of comparatively short duration with a normal interval but there was a recurrence with a return of mental symptoms of such nature that care in a hospital had been necessary. She was aggressive and had no understanding of her illness. At times she was emotional, abusive, and difficult. She felt "capable," had an idea she could live apart from her family and earn a livelihood as a teacher. She had always boasted of her accomplishments and the test was interpreted as an opportunity to prove her earning capacity. The experience was pleasurable and she was interested throughout the performance, though she talked of "unfair detention" in the hospital while so employed.

No. 60.—A woman, twenty-three, an only, spoiled child, developed an episode with vague delusions and hallucinations. After the subsidence of the acute phase there were wish-fulfilling sex fancies, and feelings that people discriminated against her. She was jealous of other patients, was irritable and developed a tendency to stealing in reaction to delusions of ownership and grandeur. In the second episode of disturbed behavior she was more frankly delusional. At this time she was seclusive and suspicious. She scolded, and hallucinated the voice of her lover who she felt was always near her. With the test she was pleasant and cooperative but soon became irritable and somewhat arrogant with the possibility of being excelled by one of the other patients who she thought would outstrip her in excellence.

#### MANIC-DEPRESSIVE PATIENTS. MANIC PHASE.

No. 40.—An efficient, somewhat aggressive woman, aged thirty-seven, a member of a closely united family, had had for a period of about ten years alternating attacks of depression with many ideas of self-censure and guilt for which she thought she would be placed in prison and an elation with noisy overactivity and a sense of well being. There were great push of activity and almost continuous talking. She passed rapidly from one occupation to another, began many things but did not finish any. At the time of the test she was overactive, boisterous, obtrusive, and meddlesome. During the test she was facetious, very confident and somewhat restless. She looked about, was inattentive, wanted to know "how much longer" and was "ready to go on to something else now." She reacted, however, the entire time without interruption.

No. 24.—An efficient woman, twenty-six, who with the birth of her first child became elated and passed through a prolonged excitement with marked destructiveness to clothing, aggressiveness and erotic behavior. Following this phase there was a period of depression with regret and remorse

for the behavior of the exalted period of her illness. At this time she was somewhat elated but disposed to comment on the lack of consideration during the preceding weeks. She was attentive and interested and there was no comment of criticism or impatience during the procedure.

MANIC-DEPRESSIVE PATIENTS. DEPRESSED PHASE.

No. 2.—A retiring, dependent woman, fifty-four, was never emancipated from a dominant mother. With the loss of money and the marriage of her only daughter she became depressed, wept, and deplored her condition. She refused food, was non-cooperative, and retarded. After an illness of about eighteen months she was still "inadequate," almost mute, and very much depressed. When it was suggested that she try the experiment she felt "unable" but at the same time did so with a degree of pleasure. However, during the test she wept and talked of her "deplorable state."

No. 16.—A conscientious, ambitious woman, fifty years of age, with limited capacity, had several previous depressions ending in recovery. At the involution period she was again depressed, and made several attempts at suicide. With improvement she tried to earn a livelihood, but felt incompetent. She developed a second depression with early morning agitation and sadness with feelings of inadequacy. Although she responded when she was free from stress of economic situation at home she was unable to remain out of the hospital. At this time she was sad, somewhat retarded, and had feelings of the futility of any effort. With the test she was anxious "to make good." While she found the procedure an effort, after its completion she was more at ease. Her tension was shown in a very forceful, prolonged pressure on the reaction key.

No. 26.—The patient was a woman of advanced years who developed loss of interest and inability to work. There were self-reproach and feelings of guilt as a result of erotic habits, and early morning agitation and hopelessness. She was further depressed on the loss of her son and contemplated suicide. In the hospital she was tense, undecided and fearful with each new activity. She had gradually become more easy but had feelings of helplessness and inadequacy. During the procedure of the test she commented on her incompetence and fear of failure. In the beginning she was emotional but when once she had started she was composed, showed no sign of fatigue and in the end had a feeling of satisfaction with the effort.

No. 36.—A woman, at the involution period, was greatly disturbed by the failing health of her father and his impending death. She felt that she had no God and no religion, that she had lost everything, that she was not sick and that her condition was only a punishment for her sins. She had remained in this condition for about two years. In the hospital she was able to fit in with the routine but required a certain amount of direction. If left alone she wept, thought she "couldn't" and with each activity there was uncertainty and a degree of resistance or objection. When this inhibition was overcome her attempts were successful and work was done without effort.

While she was sure she "couldn't do as the others," she reacted quickly to the test, was attentive, but at the same time wept and talked of loss and of her incapacity.

No. 50.—A patient, thirty-four years of age, an only daughter, poorly adjusted to the home conditions, had many feelings of inferiority due to separation of her parents. She was arrogant, egotistical and somewhat aloof. There had been a previous atypical depression. After marriage and the birth of two children she became depressed and made three determined attempts at suicide. In the hospital she was silent, dejected, and rather taciturn. While anemic and exhausted in appearance upon admission, she gained physically and became more active. In the hospital she was tense, irritable, and somewhat unreasonable in her demands. She was arrogant in the "concessions" required of her husband before she would consider the conditions tolerable for adequate social outlet upon her return home when she recovered. Superficially she was calm but really she was irascible, paranoid, and sarcastic. At the time of the test she was condescending, somewhat suspicious of the motive, and was without great interest but was conventional and polite in manner. After a successful application to the process of the experiment she asked significantly if that were another means of testing "people's heads." Reflection upon the procedure brought out irritability and resentment.

No. 52.—A woman, at the involution period, had developed tenseness, worry, and uneasiness. She became silent or replied, "I don't know, I'm a puzzle to myself." She was inaccessible and was uncertain about the safety of her family. There were perplexity, dejection and distress. She was soon more easy about things but remained melancholy and retarded in movement and speech. While she wished to be obliging, she found no satisfaction in the test, sighed but maintained attention during the time. On returning to the ward she commented on the experience with no suggestion of suspicion or fear.

No. 62.—A woman of advanced years, who was previously much occupied with the care of an invalid father and in maintaining a home for her brothers, developed a depression associated with the death of her father and the marriage of her brothers. She felt there was no purpose in life for her. She was tense, despondent, found living in the homes of her brothers intolerable and made an attempt at suicide. In the hospital she was resentful, unhappy, and worried about the prospect for the future. While she had improved and was employed in a minor capacity, she thought she could earn a livelihood in a more independent situation. When plans were made for such a change she felt unequal to the effort and again slipped into a depression. During her stay in the hospital there had been fluctuations of elation and despair. At the time of the test she was worried, tense, and preoccupied. During the procedure she was inhibited by a fear that she couldn't complete the test successfully. She hoped that hers would be the best, but feared it wouldn't compare favorably with the others. She was attentive, somewhat more anxious, and at the end was dissatisfied with the effort and with the result.

## PSYCHO-NEUROTIC PATIENTS.

No. 14.—Patient, thirty-two years of age, had been emotional and unstable for a number of years as a result of domestic friction and unhappy relations with her husband. There were feelings of physical disability and swings of depression with suicidal tendencies. Previous to her admission she was impulsive, undecided and petulant. In the hospital she was silent, somewhat hostile, insisted that she was well, that she should be at home, and that her trouble was worry, not sickness, and that no one could help her. She was ordinarily not spontaneous nor interested but was cooperative with the test.

No. 32.—A woman, about forty years of age, after an acute physical illness developed depression with vague somatic discomfort. The death of her father resulted in a collapse in which she wept, developed a tremulousness, and had feelings of disability. She thought she was incapable of any effort and that she was unable to see or to think clearly. There were headaches, tenseness, and fatigue with effort. In the hospital she wished to remain in bed. With any exertion there were feelings of incapacity and doubt. While she wished to try it she felt that she would be unable to complete the test. Once during the test she commented on a blurring of vision with work when at home but made no special reference to discomfort from the test.

No. 48.—The patient, a woman about forty, became attached to a girl with whom she lived. After they had quarreled the patient felt neglected, couldn't sleep, and developed an illness with depression, obsessions and sex ruminations. She worried about her health, and complained of fatigue. In the hospital she became more cheerful but was preoccupied with somatic discomfort, and misgivings about the future. During the test she was somewhat uncertain about the attempt but was cooperative and attentive.

No. 58.—A young girl with difficult home situation, who had had difficulty with the last year of high school work, became irritable and developed twitching of the right arm and leg. The "choreiform" movements were voluntary in character. She was unstable, silly, and "hysterical." In the hospital she improved, was cooperative, but somewhat indifferent. With the test she was childish in her interest and in a desire for perfection. Her customary irregular muscular movements were absent during the procedure.

No. 64.—The patient, fifty-two years of age, a very efficient woman, was shocked by the accidental death of her husband and the sudden death of her only son. She developed anxiety attacks, complained of weakness, tremulousness, and inability to stand or walk. There were periods of incapacity, with intervals of greater comfort. Upon two occasions she was admitted to the hospital for care. With the feelings of disability there were depression and exhaustion. She gave the impression of a desire to make the effort but felt inhibited from doing so. So was not irritable nor petulant but was embarrassed with her complaints which she recognized were without physical basis. At the beginning of the test she was somewhat



less alert and responded slowly. There was no element of fatigue and at the end she was pleased with the result.

#### PATIENTS WITH ORGANIC BRAIN DISEASE.

No. 30.—Patient, about forty-five years of age, began to suspect her husband of infidelity, and thought her neighbors were hostile in their attitude to her. She neglected her children, and began to show irritability and violent temper outbursts following an attack of influenza. At the time of admission there were beginning rigidity in posture, pupillary changes, dysarthria, and rather rapid forward progression in walking. In the hospital she was placid and cooperative, and content with the régime but uneasy about her children. There was a somewhat rapid development of the neurological signs of encephalitis. She was cooperative with the test but was somewhat clumsy in the coordination of the finer movements.

No. 46.—An imperious, petulant woman, aged fifty-four, developed arterio-sclerosis, had an apoplectic seizure followed by a period of confusion and marked irascibility. There was marked improvement but neurological residuals were seen in unsteadiness of gait, in visual impairment, and in loss of coordination for the finer movements. She had been able to relearn many activities such as reading, sewing, and walking in a direct forward progression. At the time of the test there were marked irritability and lack of personal resources in diversion and in work. During the test she was agreeable and willing but was somewhat irritated by the possibility of being less able than others to execute the movements. There was delay and the loss of ability for finer coordination made it difficult for her to release the key after reacting.

No. 22.—An expert accountant, aged thirty-nine, had developed difficulty in concentration of attention and became quiet, contrary to his former disposition. There were tremors of the hands and face, difficulty in articulation, and pupillary irregularities. A diagnosis of paresis was made. There were fluctuations in mood, he became silly and developed inappropriate emotional reactions. In the hospital he was more stable. He is active and able to coordinate movements for finer adjustments though at a lower level of mental efficiency. He was cooperative with the test and felt much encouraged by his "success."

#### II. MOTOR INHIBITION—DRAWING LINE EXPERIMENT.

This test was suggested by the test for "Motor Inhibition" of Downey's Will-Temperament Tests<sup>1</sup> where the subject is required to write "as slowly as possible" the phrase "United States of America" in the individual test, and to trace a scroll in the group test. She defines this trait, which she regards as very important in the temperament profile and in which she reports a uniformly low score for psychopathic subjects, as "Capacity to keep in mind



a set purpose and achieve it *slowly*. It involves power of motor control, imperturbability, and patience."

#### METHOD AND APPARATUS.

A gray cardboard, 47 by 14 cm., with an aperture of 29.5 by 1.6 cm., was mounted before the drum of the synchronous motor kymograph in the horizontal plane. The cardboard was held in position by four small angle irons which permitted it to move upwards freely at slight pressure on the upper edge of the aperture. The subject was given a light wooden rod, about 20 cm. long and 9 mm. in diameter, with a flexible celluloid writing point, 35 mm. long, at the end. Attached to one edge of the writing point was a metal cap of 8 mm. diameter. The subject was required with his right hand, the arm free and unsupported, to draw the writing point as slowly as possible along the aperture, touching the drum, and holding the metal cap against the upper edge of the aperture, but avoiding such pressure as to lift the card from its resting place. To warn him of too great upward pressure a signal lamp before him lighted by breaking of the contact at either end of the card when it was so lifted. The line drawn across the revolving drum recorded as a continuous spiral line around the drum which was afterwards measured in length for each of the five cm. sections of the 25 cm. aperture traced by the subject, thus giving the time taken (1 cm. equalling .736 second). The kymograph record gave a complete picture of the subject's performance, variations in rate and stopping of movement at any point. The subject might have noted his own variations by observing the closeness of the lines on the drum as he moved along, although his attention was not called to this.

#### SUBJECTS.

The subjects of this experiment were twenty-nine patients classified by diagnosis as follows:

Schizophrenia .....	12
Manic Depressive—Depressed .....	5
Manic Depressive—Excited .....	2
Psycho-neurosis .....	4
Psychopathic Personality .....	2
Mental Deficiency .....	1
Organic Brain Diseases	
Paresis .....	2
Arterio-sclerosis .....	1

Their occupations previous to admission were the following: Clerks six, housewives five, stenographers three, nurses three, students three, accountants two, and one each seamstress, manufacturer, teacher, merchant, salesman, librarian, and newspaper reporter. Their age distribution was as follows:

15 to 19 years .....	1
20 to 24 years .....	6
25 to 29 years .....	3
30 to 34 years .....	3
35 to 39 years .....	3
40 to 44 years .....	2
45 to 49 years .....	3
50 to 54 years .....	4
55 to 59 years .....	1
60 to 64 years .....	3

Six of the patients were male, and twenty-three female. Fourteen of these subjects had served previously in the reaction-time experiment.

Twenty-seven normal subjects served as a control group. Their occupations were, nurses 11, occupational aides eight, physicians three, and one each social worker, librarian, pianist, stenographer, and institution housekeeper. Their age distribution was as follows:

20 to 24 years .....	8
25 to 29 years .....	5
30 to 34 years .....	2
35 to 39 years .....	5
40 to 44 years .....	3
45 to 49 years .....	4

Four of the normals were male, and twenty-three female. Ten of these subjects had served previously in the reaction-time test.

### RESULTS.

Table 7 presents the distribution of time in seconds taken by the normal subjects and the various groups of psychotic subjects to draw the 25 cm. line in 5 cm. sections. It will be seen that the psychotic tend definitely toward shorter times, that is, they lack the motor inhibition or control required in this performance. At the same time their rate of movement is more uniform throughout the 25 cm., the normals tending to speed up as they move along

FRANKLIN FINE

Seconds	1st 5 cm.						2nd 5 cm.						3rd 5 cm.						4th 5 cm.						5th 5 cm.											
	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Psychopa. personal.	Paretic	Arteriosclerotic	Mental deficien.	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Psychopa. personal.	Paretic	Arteriosclerotic	Mental deficien.	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Psychopa. personal.	Paretic	Arteriosclerotic	Mental deficien.	Normal	Schizophrenic	Depressed	Psychoneurotic	Excited	Psychopa. personal.	Paretic	Arteriosclerotic	
7	6	7	3	1	1	1	1	1	1	5	5	2	1	1	1	1	1	1	5	6	1	1	1	1	1	1	1	9	5	2	1	1	1	1	1	
14	5	2	1	1	1	1	1	1	1	8	5	1	1	1	1	1	1	1	*10	3	2	1	1	1	1	1	1	7	5	3	1	1	1	1	1	
21	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	2	2	5	2	1	1	1	1	1	
28	*5	1	2	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1
35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1
42	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1
49	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
56	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
63	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
70	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
77	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
84	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
91	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
98	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
105	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
112	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
119	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
126	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
133	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
140	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
147	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
154	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
161	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
168	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
175	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
182	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
189	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
196	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
203	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
210	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Median	22.4	21.0	17.5	13.3	12.0	* Median class																														12.0

(upper limit of class)

(upper limit of class)

the line and in the fourth and fifth sections of the line the normal rate cannot be regarded as significantly slower than that of the psychotic. This is evident in the summary presented in Table 8.

TABLE 8  
DRAWING LINE

	1st 5 cm.			2nd 5 cm.			3rd 5 cm.		
	M	$\sigma$	PE	M	$\sigma$	PE	M	$\sigma$	PE
27 Normals...	38.6	46.9	6.1	40.2	52.1	6.8	32.6	35.6	4.6
29 Patients...	18.8	19.1	2.4	19.5	15.8	2.8	18.1	13.5	1.7
Difference...	19.8	9.6	6.5	20.7	10.4	7.1	14.5	7.3	4.9
Probability...	.04			.05			.05		

	4th 5 cm.			5th 5 cm.		
	M	$\sigma$	PE	M	$\sigma$	PE
27 Normals...	25.0	52.6	3.9	25.2	29.9	3.9
29 Patients...	19.7	17.1	2.1	18.7	15.0	1.9
Difference...	5.3	6.6	4.5	6.5	6.4	4.3
Probability...	.43			.31		

#### CASE FORMULATIONS.

##### SCHIZOPHRENIC PATIENTS.

For remarks on patients Nos. 2, 4, 10, 48, and 54, see Nos. 4, 8, 18, 54, and 60, in section on reaction-time.

No. 6.—The patient, aged forty-four, disappointed in her love life at sixteen, had become seclusive, irritable, and critical. She protected herself against any contact with an irascibility so that it was impossible to approach her with any friendly overtures. In the hospital she was seclusive, sensitive, had feelings of self-reference, and jealousy of those whom she felt superior to herself in any respect. She withdrew more and more with definite feelings of being inferior and unwanted. There were many somatic delusions and feelings of inability for work. She was with the test, anxious to excel, self-depreciatory, but at the same time pleased with her effort.

No. 24.—Patient, aged fifty-five, a recluse for some time, had for a year maintained much secrecy about her personal affairs. In order to gain "independence" and to avoid being "watched and followed" she had changed positions frequently. With the news of the sudden death of her favorite sister she became emotional, noisy, impulsive, and made an attempt at suicide. In the hospital she was obstinate, determined "to go home," thought the doctors should permit her to leave, and that her stay was a punishment and unfair. She was "superior" in attitude, sarcastic, and easily offended. While willing to do the test she considered it a "condescension" on her part. She was disturbed about the success of her attempt, wished to repeat it, but was suspicious of its meaning.

No. 32.—At the time of graduation from college, the patient, aged twenty, began to act queerly with his associates and in the choice of clothing. He thought there was special meaning in certain activities of a college fraternity. He became tense, and irritable. Later there were eccentric behavior with guests in his home, violence, and marked impulsiveness. Upon admission to the hospital he was fearful, resistant, and unable to understand what had happened. For several months he was suspicious, uneasy, and sensitive. During the test he was more comfortable but tense and ill-at-ease.

No. 34.—A professional nurse, aged thirty-six, with shy retiring make-up, developed a psychosis while engaged in war work. She became introspective, spoke guardedly of hypnotism and telepathy. She became more pre-occupied, was hallucinated, had ideas of self-reference and refused food. She became more silent and unstable, is now directed by "voices" and as a result is impulsive and uncertain. At this time she was undecided, petulant and had ideas of being teased and annoyed by others. She was somewhat uncertain about the procedure but offered no objection to trying the test.

No. 44.—An efficient business woman, aged twenty-seven, while doing extra work developed tenseness, fear and suspicion. She went away for a rest but while at a summer place developed a panic of fear, became violent, destructive, erotic, and untidy. After a few weeks she became unreasonable, hallucinated, had ideas of personal reference and was fearful for her safety. There was a shifting over into a calmer attitude in which many day-dreams and erotic fancies were expressed. At this time she was hallucinated, suspicious, uneasy, and thought every activity had some meaning for her. When invited to go to the laboratory she was unwilling but then wished to do so. After the test she was suspicious, uneasy and wanted to know what it "really meant."

No. 52.—During a previous illness the patient, aged twenty-six, had an episode of a "frenzy of fear" followed by stupor with mutism for several months, ending in recovery. With the onset of this illness she was dis-

oriented, and in almost constant motion with purposeless activity. She was out of contact with the surroundings, was untidy and destructive. There followed a phase of deep stupor with mutism, refusal of food, and unwillingness for any association with others. At about the time of the test she was still mute, somewhat retarded but in contact with the environment. Her attention and effort were well sustained and she apparently understood the meaning of the test. There was no doubt, resistance or fear.

No. 60.—A brilliant journalist, aged thirty-three, became tense and worried over family stresses. She suddenly felt "commanded" to go to a distant state to work. In California she developed an acute mental disturbance for which she later had little memory. There were hazy notions with a tendency to blame others for the illness. Upon admission she was perplexed, dreamy, but was able to talk in a calm convincing manner of her career. There was a rapid loss of clarity, she became hallucinated, had vague fantastic delusions of erotic nature and developed marked dilapidation of habits. At this time there was a pseudo-philosophical attitude in the discussion of her symptoms but without real insight. She was somewhat "superior" in her attitude and was disposed to overestimate her ability. When alone she whispered, giggled, and was silly. With the test she was calm, superficially natural and very cooperative.

#### MANIC-DEPRESSIVE PATIENTS—MANIC PHASE.

No. 18.—An efficient nurse and dietitian, aged fifty, was disappointed when she learned of the infidelity on the part of her husband. Physical ill health necessitated a surgical operation with tedious convalescence. She became depressed, was indifferent, lacked interest in home or in friends. There were several attempts at suicide, great dilapidation in habits and apparent apathy. This condition gradually shifted over into an elation with ideas of unfair treatment, of her being unwelcome and of her superior capacity. At this time the patient was aggressive, talkative, and eager for any activity. She was willing to take the test and found satisfaction in the procedure.

No. 28.—Patient, aged thirty-two, had for twelve years shifted from manic elations to depressions with short normal intervals. In the elations she was obtrusive, critical and mutinous. In the depressive moods she was indifferent to the surroundings. At times she spoke of being "stunned," in which condition she was devoid of interest or desire for effort of any kind. At the time of the test she was somewhat excited, disposed to be boastful, but was afraid she would compare unfavorably with others in the test. While apparently interested in the work she was critical and impatient with the situation.



## MANIC-DEPRESSIVE PATIENTS—DEPRESSED PHASE.

For patients Nos. 14, 38, and 58, see Nos. 26, 36, and 62, in section on reaction-time.

No. 16.—A woman, aged forty-nine, with a shut-in personality, had developed at the involution period a psychosis characterized by marked negativism. She was sad, worried, silent and somewhat apprehensive. She replies in monosyllables, somewhat retarded, has many ideas of unworthiness and is self-accusatory. While without any initiative, she is able to carry out activities unassisted if the suggestion is offered. At about the time of the test the patient was preoccupied with handwashing and other rituals of cleanliness. She was somewhat resistant to the daily routine but with the invitation to go to the laboratory did so without objection and reacted naturally, accomplishing the task without hesitation.

No. 42.—After prolonged stress resulting from domestic friction the patient, aged forty-eight, developed a mental illness associated with delusions about her husband and mother. There followed a period of several months in which she was in a delirium-like state. From this she shifted over into feelings of inadequacy and depression. There was confusion with occasional hallucinosis in which she felt that she had done wrong. She wished with each new activity to be assured of her doing right. This attitude was continuous in the daily activities at about the time she did the test. She was clear enough to understand its meaning, was cooperative with the procedure but wished before she started and during the procedure to know if she were doing right and that which "her family expected of her."

## PSYCHO-NEUROTIC PATIENTS.

For patient No. 56 see No. 64 in reaction-time section.

No. 8.—A woman, aged sixty-one, closely attached to her family, was brought up without any opportunity for development of independence and personal resources. At middle life she began to be undecided, lonely, inadequate and developed an invalid reaction. On account of petulance and a tendency to exaggerate minor difficulties to the extent that her care at home was difficult, she was brought to the hospital. At the time she was dependent upon others for direction and felt incapacitated. When feeling at a disadvantage she replied with "I didn't know what you wanted" or "I didn't understand." With the test she did well but was uneasy at the time and dissatisfied with the effort saying, "I didn't know what you wanted."

No. 30.—An orphan, aged nineteen, who knew nothing of her parentage, developed at an early age sexual behavior of an overt nature. After a real or fancied sexual assault there was an episode of excitement with continuous preoccupation with sex subjects. She was impulsive, suicidal, tense, and erotic. She developed delusions and was constantly hallucinated. At this

time she was rigid in posture, irritable, scolded, and was ashamed of the sex content of her thought. With the test she was embarrassed, awkward, but even though tense she became interested in the procedure and was temporarily at ease.

No. 36.—After an emotional upheaval the patient, aged forty-two, developed somatic interests, indecision of activity and feelings of great fatigue. There were impulsive attempts at suicide, and worry about the condition of his health. Repeated examinations did not reassure him but he continued to feel incapable of any exertion. After any effort he was "weak" and afraid to try to do anything. At about the time of the tests he had improved but was still "too weak to walk" to the laboratory and "unable to control my hands." Even with his doubt and indecision he was able to fix his attention and to coordinate his movements satisfactorily. Later he was encouraged by the effort.

#### PATIENTS WITH ORGANIC BRAIN DISEASE.

Patients Nos. 12 and 46 will be found under Nos. 22 and 46 in the reaction-time section.

No. 20.—A successful manufacturer, aged forty-five, after a period of loss of energy and physical weakness, began to show overactivity and impairment of judgment in his business. There was an increasing tendency to grandiosity, amorous attitude, and talk of a proposed marriage. Neurological symptoms indicated an organic brain disease—paresis. In the hospital he passed through a prolonged excitement with marked euphoria. At the time of the test he was elated, generous, impatient, but good-natured. He found pleasure in the test, was confident of his ability to excel all others and to "invent a better machine."

#### PSYCHOPATHIC PERSONALITY.

No. 22.—A patient, twenty-nine years of age, with brilliant intellectual attainments and puritanical home environment, developed a definite change in personality. He was restless, became unguarded in the use of alcohol, was reckless in spending money, and in other irregularities of conduct. There were manic elations and depressive swings. His judgment was poor and his escapades brought him into conflict with the law. He had been placed in several hospitals for mental care but with each occasion improved to the extent that he was able later to do acceptable work as an auditor. At about the time of the test he had no insight into his condition, was obtrusive, boisterous, and excitable. During the test he was eager to show his superiority and was certain he would excel all others. He was well coordinated, attentive and efficient in the test.

No. 50.—A patient, about twenty, was as a child difficult and mischievous. With attempts at correction on the part of his parents he was rebellious and ran away from home. For five years the patient has been a problem to his

family. There are many escapades in travel, misdemeanors of theft, sexual excesses and forgery. He was in various training schools, enlisted in the army, in aeronautics, in the navy and in the medical corps, under his own as well as under assumed names. He was placed in several institutions for observation where he became more excited, overactive, and boisterous and made his escape with each admission to a hospital. At about the time of the test he was obtrusive, boastful and alert. He had a tendency to talk in an extravagant manner of his activities. During the test he wished to excel and he "knew his was best." The novel situation was welcomed by him and the test served as a relief from a daily routine which he had found monotonous.

#### MENTAL DEFICIENCY.

No. 26.—The patient, aged thirty-one, showed a progressive decline in ability to get along with people. She ceased to work, was dreamy, became indifferent in her habits, and spoke of suicide. Upon admission she showed mannerisms, evaded questions, was irrelevant in statements, had many somatic complaints, was embarrassed and ill-at-ease. She denied mental illness, was "sorry she was a trouble." In the hospital she was indifferent, somewhat affected in manner and had no realization of her condition. At the time of the test she was "airy," condescending, and thought it a "favor to the hospital" to do the test. She was pleased with the attempt and "knew it would help."

#### CONCLUSIONS.

While there is some evidence of difference of behavior between the psychotic and the normal revealed in the performance in the psychological tests or experimental procedure used in this investigation it is not sufficiently positive in kind or degree to recommend the tests as standard and objective means of detection of abnormal behavior or its diagnosis. The possibility of the application of so-called tests for this purpose is not, however, to be regarded as hopeless. A "test," as the term is used in psychology, is essentially the prescribing of a specific task, the objective recording of its performance, and the comparing of this performance with established norms. It is not, as the term is used in chemistry, a "procedure or reaction employed to recognize or distinguish any particular substance of constituent of a compound; as, the iodine test of starch." The terms, "sample," "specimen," or "pattern," might more accurately apply, for while we speak of tests of various processes or functions, this does not, or should not, imply a "faculty" psychology but refers to the fact that the specific task

chosen is one in which we can reasonably suppose that the subject has certain experiences in its performance akin to experiences in actual and practical affairs. Or perhaps, we should not make such inferences, but, using purely empirical methods, select such tasks, if the test is to be diagnostic, that the normal can perform and that the psychotic cannot, or with a degree of efficiency which the psychotic cannot reach or else surpass, or which the psychotic performs in a different manner.

A very promising suggestion of method, which the present writers subscribe to in the light of the results of this investigation, is one which Dunlap<sup>9</sup> has strongly urged for the purpose of measuring the deterioration or improvement due to fatigue, alcoholization, tobacco smoking, loss of sleep, asphyxiation, and other materials and conditions believed to have effects on human efficiency. He points out that the psychological tests of the conventional type have led to results which have frequently been of a contradictory nature and of a dubious character. In distinction to this type of test, which he calls "capacity" tests, he presents a new type of test to measure "condition." It is worth quoting at length his outline of the essentials for successful "condition-measurement:"

1. The test must occupy a considerable stretch of time, the exact length probably varying according to other circumstances, but typically fifteen minutes to forty-five minutes.

2. The reactor must be required to respond to several sets of stimuli, making a predetermined type of reaction to each. This is the condition under which the aviator, the automobile driver, and many other types of operators actually work, and is characteristic of the most important demands made on efficiency in daily life.

3. Reaction time measurements, of the traditional sort, are not to be used. For the major categories of mental efficiency the differences ordinarily characteristic of reaction time measurements are of minor importance, and they are not indicative signs of efficiency. It is probable that in many circumstances (as in driving a car), hair-trigger reactions are a source of inefficiency. The demands in reaction, for condition-measurement, are certainty and accuracy of selective response, made within a reasonably short time.

4. There must be no moment during the test at which the reactor may assume that no response is to be immediately made, and the reactor must fully understand that something requiring reaction may occur at any moment, however long the various time-intervals may be.

5. The nature and rate of work demanded of the reactor must be such as will not in themselves produce fatigue, unless fatigue is the specific conditioning process under investigation.

6. The responses must be such as, in themselves, the reactor can accomplish with a minimal practice factor.

The significance of these conditions was first realized in the investigation of effects on the aviator of oxygen deficiency in high altitude, as recounted by Dunlap: "The first findings of Bagby, Isaacs and myself in the attempt to discover measures of deterioration due to asphyxiation for the Air Medical Service during the recent war were, that no deterioration was shown by a wide range of tests of the usual sort, even up to a few seconds before the reactor fainted. We found also that some alcoholized reactors could pass these tests with their average normal efficiency when too drunk to sit steadily in their chairs. Since we believed that the failure to detect mental deterioration was due, not to the absence of such deterioration, but to the inadequacy of the tests when used for such purposes, we sought for the reasons for the assumed inadequacy and found them in the wave-like character of efficiency under difficult conditions. The asphyxiated or intoxicated reactor could, apparently pull up to his 'normal' level of efficiency when it was demanded, and maintain this level for a short time, 'slumping' to a low level in the intervals when the demand was removed. Even in tests (such as cancellation), requiring several minutes of work, the reactor could do fairly well, since, under the usual method of administering the test, he could take brief 'breathing spells' before and after short spurts. Reaction times were useless since the relief interval was provided after each reaction. The other tests afforded opportunities for wave-action in one way or another." To avoid these brief spurts of normal attention and coordination, or "attention peaks," whereby "even with large actual deterioration of the patient's mental ability, he is able to bring himself back to his usual level of efficiency for a brief period, if given the appropriate mental stimulus," the so-called "LVN" apparatus was devised which fulfilled the test conditions enumerated above. The actual primary effects of asphyxia were clearly demonstrated<sup>10</sup> and were found to be "not on any special mechanism or division of the nervous system (except of course the cardiovascular and respiratory mechanisms), but upon the *integration* of the system, and evidenced in the decrease in sensory-motor coordination, and in range and sustention of attention. The so-called 'higher mental processes' are affected in so far as they depend on attention and coordination, and

no further. For example, a man may be able to make accurate observations visually, up to the time he can no longer 'keep his attention on the task,' and record them, until his records become undecipherable, and also be able to remember these observations with normal accuracy."

These observations on the effects of asphyxiation strikingly coincide with the "two-factor theory" of Hart and Spearman<sup>11</sup> on the nature of dementia, which they attribute, on experimental evidence, not solely or primarily to large specific defects, as "disturbed association," "faulty judgment," "loss of memory," etc., but to "a general impairment of a diffuse character or a lowering of the whole intellectual level" conditioned physiologically by the "efficiency of the entire cortex."

It is obvious that for the objective and experimental study of the psychotic a "condition-measurement" test should be used rather than the various "capacity" tests. Clinical observation itself indicates this. It has been observed by those with long experience with the psychotic patient that, while he is generally incapacitated to earn a livelihood and live among his fellows, he can be aroused by a new or unusual situation and carry out specific tasks acceptably. It is in the long section only of his life that the disability is noticeable. Desire to prove his "sanity," to show his superiority, or momentary interest enable him to execute satisfactorily many specific tasks, whereas there is a general disturbance of attention and coordination that manifests itself in the daily practical routine of adjustment.

#### BIBLIOGRAPHY.

1. A. Hoch: A Review of Some Psychological and Physiological Experiments Done in Connection with the Study of Mental Diseases. *Psychol. Bull.*, 1904, 1, 241-257.
2. The program and methods outlined in 1894 by Kraepelin in "Der psychologische Versuch in der Psychiatrie," the opening article of his *Psychologische Arbeiten*, 1896, 1, 1-91, is well worth rereading. See also, A. Hoch: Kraepelin on Psychological Experimentation in *Psychiatry*, *Am. Jr. Insanity*, 1895-96, 52, 387-396.
3. R. S. Woodworth: *Psychiatry and Experimental Psychology*. *Am. Jr. Insanity*, 1906-07, 63, 27-37.
4. E. W. Scripture: *Reaction Time in Nervous and Mental Diseases*. *Jr. Mental Science*, 1916, 62, 698-719.



5. A chronological list of the literature of research in which simple reaction-time has been used in nervous and mental diseases includes the following:

- (1) H. Obersteiner: Ueber eine neue einfache Methode zur Bestimmung des psychischen Leistungsfähigkeit des Gehirnes Geisteskranker. *Virch. Archiv.*, 1874, 59, 427-458.
- (2) H. Obersteiner: Experimental Researches on Attention. *Brain*, 1879, 1, 439-453.
- (3) G. Buccola: Il Periodo fisiologica di Reazione negli Alienti. *Riv. Sperim. di Freniatria*, 1881, 7, No. 4. (Reviewed in *Rev. Philos.*, 1882, 14, 700-703.)
- (4) G. Buccola: La Legge del Tempo nei Fenomeni del Pensiero. Milan, Biblioteca Scientifica Internat., Vol. 37, 1883. (Reviewed in *Rev. Philos.*, 1883, 16, 420-427, by Th. Ribot.)
- (5) Tchige, in *Wiestnik Pschiatrii*, 1885, sec. vol. 1885, m. II. (Referred to by Walitzky.)
- (6) W. von Tschisch: Ueber die Zeitdauer der einfachen psychischen Vorgänge bei Geisteskrankheiten. *Neurol. Centralblatt*, 1885, 4, 217.
- (7) Ch. Féré: Note sur le Temps de Réaction chez les Hystériques et chez les Epileptiques. *C. R. Soc. de Biol.*, 1889, 67-76.
- (8) M. Walitzky: Contribution à l'Etude des Mensurations psychométriques chez les Aliénés. *Rev. Philos.*, 1889, 28, 583-595.
- (9) W. Bevan Lewis: Text Book of Mental Diseases. London, 1890. 2nd Edition, 1889, pp. 164, 364, 365.
- (10) W. Bevan Lewis: Reaction-time in Certain Forms of Insanity. Art. in *Tuke's Dictionary of Psychological Medicine*, 1892, Vol. II., 1063-1067.
- (11) A. G. Nadler: Reaction-time in Abnormal Conditions of the Nervous System. *Yale Psychol. Studies*, 1896, 4, 1-11.
- (12) E. Toulouse and N. Vaschide: Temps de Réaction dans un Cas de Mélancolie Circulaire. *C. R. Soc. de Biol.*, 1897, 616-617.
- (13) C. Richet: Cerveau. Art. in *Dictionnaire de Physiologie*, 1898, Vol. III., 29.
- (14) F. Raymond and P. Janet: Névroses et Idées fixes. Paris, 1898. Vol. II., pp. 51, 66, 242, 461.
- (15) P. Marie and N. Vaschide: Recherches expérimentales sur la Vie mentale des Aphasiques. La Vitesse des Temps de Réactions auditives chez quelques Aphasiques. *Rev. Neurol.*, 1903, 11, 228-231.
- (16) Pelletier: Les Lois morbides de l'Association des Idées. Paris, 1904.
- (17) S. I. Franz: Anomalous Reaction-times in a Case of Manic-Depressive Depression. *Psychol. Bull.*, 1905, 2, 225-232.

- (18) S. I. Franz: The Effects of Exercise upon the Retardation in Conditions of Depression. *Am. Jr. Insanity*, 1905, 62, 239-256.
- (19) S. I. Franz: The Time of Some Mental Processes in the Retardation and Excitement of Insanity. *Am. Jr. Psychol.*, 1906, 17, 38-68.
- (20) C. Charpentier: Quelques Temps de Réaction chez les Aliénés. *Jr. de Psychol., Norm. et Pathol.*, 1906, 3, 226-240.
- (21) A. R. Diefendorf and R. Dodge: An Experimental Study of the Ocular Reactions of the Insane from Photographic Records. *Brain*, 1908, 31, 451-489.
- (22) E. W. Scripture: Reaction Time in Nervous and Mental Diseases. *Jr. Mental Science*, 1916, 62, 698-719.
- (23) F. L. Wells and C. M. Kelley: The Simple Reaction in Psychosis. *Am. Jr. Psychiatry*, 1922-23, 2, 53-59.
- (24) H. Lundholm: Reaction Time as an Indicator of Emotional Disturbances in Manic-Depressive Psychoses. *Jr. Abnorm. Psychol. and Soc. Psychol.*, 1922, 17, 292-318.
- (25) J. M. Lahy and D. Weinberg: Les Courbes de Fréquence des Temps de Réaction dans les Cas de Troubles neuro-psychiatriques et chez les Normaux. *Prophyl. Ment.*, 1926, 2, 207-215. (Abstracted in *Psychol. Abstracts*, 1927, 1, 348.)
- 6. R. M. Yerkes: Variability of Reaction-time. *Psychol. Bull.*, 1904, 1, 137-146.
- C. S. Myers: Reaction-times. In *Reports of the Cambridge Anthropological Expedition to Torres Straits*. 1903. Vol. II., Part II., p. 212.
- 7. K. Dunlap: A Synchronous Motor Kymograph. *Psychobiol.*, 1918, 1, 319-324.
- 8. J. E. Downey: *The Will-Temperament and its Testing*. World Book Co., Yonkers-on-Hudson, N. Y., 1923, pp. 214, 192.
- 9. K. Dunlap: Apparatus and Methods for Measurement of Psychological Condition. *Jr. Comp. Psychol.*, 1926, 6, 133-138.
- 10. K. Dunlap: Psychological Research in Aviation. *Science*, 1919, N. S., 49, 94-97.
- 11. B. Hart and C. Spearman: Mental Tests of Dementia. *Jr. Abnorm. Psychol.*, 1914-15, 9, 217-264.

## SOCIAL FACTORS INVOLVED IN PERSONALITY INTEGRATION.\*

By J. S. PLANT, A. M., M. D.,

*Director of Essex County Juvenile Clinic, Newark, N. J.*

One<sup>1</sup> of the interesting aspects of the development of mental hygiene and child guidance clinics has been the rather wide-spread claim that we psychiatrists are primarily interested in the integration of the personality.<sup>2</sup> We have joined in the public's criticism of the specialist as one who so thoroughly and carefully takes the patient apart that he does not know how to put him together again. We feel: (1) That the specialist cannot accurately diagnose because he does not see the particular organ or disease in its proper relationship to the total individual; (2) that by this high-power focusing he distorts the lines of the organ or disease itself; and (3) that he fails to minister to that which the patient considers his

\* Read at the 6th annual meeting of the American Orthopsychiatric Association, New York, February 23, 1929.

<sup>1</sup> The title of this paper should perhaps better be "The Effect of Population—Concentration on the Integration of the Child's Personality." With certain articles now in preparation it furnishes an elaboration and, the author believes, some substantiation of his article "Sociological Factors Challenging the Practice of Psychiatry in a Metropolitan District" (*AMERICAN JOURNAL OF PSYCHIATRY*, Vol. 8, pp. 705-717, January, 1929).

<sup>2</sup> This expression "integration of the personality" is, indeed, a suspicious guest particularly at a time when psychiatrists are in no agreement as to what the personality is—if anything. The author is here dealing so largely with extra-individual forces that impinge upon the subject that he has not felt inclined to attempt a definition even as a mere working hypothesis for this paper. Whether thinking of the subject as having a personality or "a group of personalities" (an expression used, for instance, by Dr. Ira Wile in discussing this paper) the author here assumes the naturalness of such a cohesiveness or unity of all that makes up the subject as to allow of his saying "I have lived such and such a life" or "I will have such and such a future." Assurance as to the considerations of this paper is limited markedly precisely by this uncertainty as to what "the personality" is. Such a limitation would have delayed this discussion had it not promised to be of prolonged duration.

most real and valued possession—namely, his feeling that he *is* a person. Specialization represents what we have been rather free to call an unhealthy tendency in modern medicine. In distinction both our theory and methods are directed towards the individual as a whole or unit. An organ difficulty is now but a special example of the failure to adjust on the part of the total personality. Much of our literature shows little patience with particularized pathology. Again, not only are we tremendously interested in integrating the various elements of the personality—we go further than that to see the development in certain schools of a single aim—namely just the question as to what is, after all, the total or entire personality.

The “family doctor” of legend—poor as were, perhaps, his tools—dealt much more with the total personality of the patient than does the specialist of to-day. To this extent does the former represent a type in the practice of medicine which we psychiatrists are attempting to emulate.

But the modern specialist does no more than mirror the total present social situation. That is, this old “family doctor” about whom we have talked so much—this man who attempted to study the total personality involved and the total situation—lived at a time when the social situation was very different from what it is at present. In an effort to make this clear we shall briefly review the period preceding the industrial revolution in comparison with what we are finding in a modern highly industrialized area. In selecting certain factors in our brief time we are, I believe, not distorting the total picture.

In picturing the period previous to the industrial revolution in England we intend chiefly to say that there was a definite orientation of the child's entire life—or his entire personality—to his own family. We mean that a very large part of the child's activities and interests lay definitely within what one might term the actual geographic limits of his own family and that such as were not, *oriented themselves* to the family life. It is trite to say that the industrial life was largely within the home. Through guild and apprentice systems there was every tendency to carry over into industry essentially the same groups and relationships as existed in the family. Schooling—in our modern sense—was meagre and for the mass of people amounted to no more than vocational train-

ing. Precisely in this fact lies its interest for us. The learning of the child was intimately bound to his earning life and to his actual, physical, family.<sup>3</sup>

The social structure of 1800 had, then, certain peculiarities. Efficiency in earning capacity could be consummated practically solely within the family group and through the preservation of the classical family pattern. Learning was validated solely by earning potentialities and was in the hands of the parent or his immediate substitute because there was no one else to take his place. In brief, this was a period of the closest interlinking of the great modern social institutions with (in comparison with present-day conditions) a low rate of efficiency in each. It seems fair to say that there was at that time an integration of all of these factors about the family and that very possibly the matter of total personality integration was an easier affair, simply because the milieux of satisfactions for the various needs of the personality were not geographically or socially separated. Truly, from a social point of view, this was a period of nonspecialization.<sup>4</sup>

Leaving this period we wish to draw a picture based primarily upon six years' experience in Essex County, New Jersey. We

<sup>3</sup> Some of the stubbornness of the problems involved in the teacher as a parent-substitute perhaps has its roots in this comparatively recent adjustment in which the parent or his substitute was the teacher.

<sup>4</sup> There are two corollary problems which are interesting but beyond our ability to accurately depict or discuss. (1) Running away from home was perhaps a more frequent and permanent juvenile attempt at solution of problems than in the modern period, despite immeasurably easier transportation facilities in our period. Those in court work, who do not agree with this should remember that it is rare, in modern life, to give to the child a chance to spontaneously return to his family. That is, we list as runaways those children who have been away short periods and have been returned by the police. With the child's total life-experience so intimately bound to his family group, elopement furnished about the only solution to any problem in his learning, earning or emotional life. Various newer types of delinquency which have arisen with the specialization of the various social institutions would, in this earlier period, have meant self-annihilation. (2) We have said nothing about the Church as a social institution in this earlier period. It is undoubtedly then, as now, subserved the child's sense of security. There is considerable data indicating that the church of 1800 was better oriented to the family group and to family life than it is to-day. Such evidence as there is seems in favor of the thesis we are here developing—its paucity, however, bans discussion.

have seen something over 2500 new juvenile cases. About half of these represent overt delinquency problems from the congested, highly industrialized, city of Newark. The others are problems of personality and school adjustments of the children of some of America's wealthiest and most attractive suburban districts—Glen Ridge, the Oranges, Montclair, etc. The total population of our area approaches 1,000,000.

What is the family as we see it to-day? Various sociologists have depicted its decay, its re-alignment or its newer aims. Little of this negates our thesis—although this is not the aspect of the social institution of the family that we wish to bring to your attention now. In our area the family is being dissipated even as the arena for the activities of the other social institutions. The data presented here is from our so-called "suburban" area because it is precisely in this group that the changes we are talking of would be at least expected to occur.\* (1) 70% of the married men have their work in another state and so far removed as to mean at least two hours of travelling each day. In some large areas this percentage is ninety. This should mean that the younger children in the family see little of the father.\* (2) The rapid inroads of apartment life are serving to restrict the size and importance of what we have previously considered the physical or real aspects of the family. (3) Each five years finds slightly over 78% of this population in a new address. This incessant migration is progressing even in areas where as high as 84% of the homes are owned by those who live in them. These staggering statistics represent this—that the family of to-day is no longer (can be no longer) the arena for the play of all the various needs of its members. We are not interested now in the final goal of the family as a social institution—though we feel that it is perhaps seeking a more

\* No one who has experience with highly industrial areas (where there is a relatively high percentage of unskilled labor) could have escaped the fact of the incessant restless wanderings of these families. The movements are largely intra-urban but remain as a challenge to the permanence or stability of the "home" in a geographical or physical sense.

\* We have elsewhere pointed to our experience that, too, the mother is out of the home more and more. We have considered some statistical statement of this but have not found any simple mode of accomplishing the statement.



thorough-going, more efficient, mode of filling that particular rôle in the flowering of the personality that is perhaps to be its own. Many of the sociologists apparently feel this to be the case and the goal of such a reconstruction seems, in the light of history, a more expected outcome than that of disintegration (the seeming occurrence of which may possibly only depend upon our chronic myopia). Here we wish merely to make this point—that the family as a social institution has “withdrawn” from the other social institutions. Is this not a form of specialization?

Moreover, when we turn to the school we find again a form of specialization which has separated it from the other institutions. There has been such specialized insistence upon academic education that it is but recently that the family and industry have been recalled as in any way related to the school. Thus we see the recent rise of the parent-teacher groups and of the visiting teacher movement—oddly enough at a time that the schools are greedily reaching out for the habit training, the recreational life, the ethical training and the nursery period of the child's life and that we psychiatrists solemnly warn of the pitfalls of parental protection and hail the schools as leading the child rapidly from the lurking dangers of mothers and mother substitutes. Nor is there anything that we have said of the public schools that need be markedly altered in a discussion of the development of the private schools. Specialization!

The school and industry? With the rise in the compulsory school attendance age we, of course, look for the closest coordination between the school and industry. With gracious bow we are presented with some Binet classes and vocation schools. But the myth of the magical value of academic education has so seized our fancy that the classification for these groups is decidedly more social than educational. There is no appreciable number of children enrolled in these groups who are of families powerful enough—financially, socially, or politically—to keep them out. Considering your own clientele, how easy is it to persuade any family to allow its child to leave academic school training—to agree with any apprenticeship trend in their child's education? Specialization again!

Industry has, itself, specialized to the point of much better caring for the earning and productive capacities of the worker.

As in the other social institutions—we have found that this has been a result of a form of specialization that has correspondingly not met the needs of the total personality. Consider, briefly, three aspects of this.

(1) The development of factory production—of mass production—has meant automatization of the component processes. Our usual, average, adolescent boy or girl of to-day does not find emotional satisfaction in the factory. They are happy when they “get a job”—because the job provides money which *later* (at *another* time) answers the other specialized needs. Certainly your experience—as ours—is that the older children in the factory must so automatize their work that the hours outside are necessarily spent in just as feverish and intense a search for emotional satisfactions.<sup>7</sup>

(2) The hours of industry are not only becoming more automatic, they are becoming fewer. Industry (except in a few sporadic cases) has not interested itself in this problem of increased wages plus increased leisure time. “Adult education” is projected to meet this need—a movement largely sponsored by the school and the workers themselves in an effort to turn this new burden into an asset.

(3) This same stratification is creeping into the commercial aspects of industry. The development of huge combines and chain businesses in this same way seriously threatens individual initiative and presents the same stratification of opportunity.<sup>8</sup>

<sup>7</sup> Such an institution as the Essex County Juvenile Clinic dealing much with adolescents who are before the courts finds this an extremely serious problem. We seek positions in small concerns for these children so that they might catch some of the emotional satisfactions to be derived from the development of the business itself. However, the larger portion of this group gain their livelihood in large factories. Here in an automatic, repetitive, way they spend their days working in an unbelievably restricted series of manipulations. The mockery (the danger!) of seeking any intellectual or emotional satisfactions in the work itself shows itself in the equally fevered and superficial effort at attaining these satisfactions during “off” hours. It seems inevitable that a psychiatry of modern life must recognize the tremendous amount of phantasy life enforced upon these young workers through the conditions of modern industrial life.

<sup>8</sup> The author hopes within the next few years to collect sufficient material for an authoritative statement on this particular point. From our material and our knowledge of the problems of this locality we make the statement

Industry is, then, specializing. To paraphrase—it is more and more ministering to less and less of the total personality.

Before a recapitulation may we again acknowledge our silence about the Church of to-day. There is a peculiar absence of any discussion of the Church in our psychiatric literature. We seem to feel that it plays a very small part in the lives of our patients—perhaps this means that we see only those as patients for whom the Church is a negligible factor. There is certainly little if anything in the Church of to-day that vitiates the arguments of this paper.

We are synthesizers—in an analytical age. The integration of the personality is certainly a function of the field in which the personality operates. Society—our modern culture—has embarked upon a colossal schizoid experiment.<sup>9</sup> We chuckle at the specialist who takes people apart. Well may he chuckle at our own fine theory of integrating the personality when success would land most of our patients in the poor-house. Learning, earning, emotional satisfactions—frankly, are not these three separate adjustments which you make for your older children?

We summarize under four headings with a fifth that is in the nature of a conclusion.

(1) We call ourselves synthesizers—particularly in comparison with the specialists in other fields of medicine.

(2) We live in a specializing (analyzing) age. The medical specialist is but the mirror of the total social situation.

(3) This means that we are trying to integrate personality when its total condition of social life is essentially analytical.

---

without hesitancy. Unfortunately the case-material involved here represents to a large extent a slightly older group than that with which we usually deal. What material we have beautifully fits the point we are here making—its paucity demands delay in enlarging upon what we believe to be a new and important factor in our total social adjustment.

<sup>9</sup> An observation, perhaps not germane to our lines of argument but of interest to us, may be made here. Not only is our culture one of specialization—of intense efficiency in ever-withdrawing institutions; we have witnessed an interesting analysis of people themselves. The movies have built a colossal industry upon what may be *seen* of people. The radio has built a colossal industry upon what may be *heard* of people. The development of the “talkie” from this point of view is interesting.

(4) I assume from our work and from the papers of this particular meeting that there is little question in your minds that we should integrate the personality.

(5) This seems then, in conclusion, to force the ortho-psychiatrist to definitely address himself to certain aspects of community life. That is, it seems, these considerations force us to realize that we must cease busying ourselves solely with individuals who have failed and must more definitely attack certain social problems. Nor do I refer here to asking for good child-placing agencies or a high grade of social work—important as that is. I mean that it is ridiculous that we talk about integrating the personality until (a) we assay the modern social institutions; (b) find that one which in strength, faith, outlook and potentiality represents the probable future synthesizing institution (one guesses that this might be the school); and (c) by counsel and loyal, active support aid this institution to its new goal.<sup>10</sup>

Synthesizers are we—but there is little use in integrating people unless we integrate the milieu in which they live. We must, in reality, become social psychiatrists.<sup>11</sup>

<sup>10</sup> The reader will find an amplification of plea with some fairly concrete suggestions in an article by the author on "The Relation of Mental Hygiene to School Hygiene" in the Magazine for Hospital Social Service (Vol. 20, Book No. 2).

<sup>11</sup> The author has referred to two of his articles upon this same general theme and of those who would take the present contribution in any seriousness he begs perusal of these. The three articles are meant to be mutually illuminating.

We entered the work in Essex County six years ago—equipped with a fair knowledge of psychiatric theory, practice and therapy. We have been slowly forced to recognize that there exist certain "social" forces which (on the basis of the theory with which we were acquainted) meant nothing but the fairly rapid destruction of the race. Far from being perturbed by this we have thought it a ringing challenge to the essential (and provincial?) individualism of the psychiatrist.

## A METHOD OF INTEGRATING PHYSICAL AND PSYCHIATRIC EXAMINATION.

WITH SPECIAL STUDIES OF BODY INTEREST, OVER-PROTECTION,  
RESPONSE TO GROWTH AND SEX DIFFERENCE.

BY DAVID M. LEVY, M. D.,

*Institute for Child Guidance, New York City.*

To the psychiatrist especially the physical examination offers many possibilities for observation and easy rapport aside from investigation of disease. Estimation of "mental age" by correlating responses to certain common directions during the physical examination with Binet-Simon tests has been determined.<sup>1</sup>

Psychiatric interview during a physical examination has certain natural advantages. The examining physician is an "accepted" experience with children and adults. The initial resistance or timidity is easily overcome with the gradual inspection and palpation. The school examination attitude, as in mental tests, is absent. Questions have a more direct application, than in the interview. Observation of hairy thighs or of unduly large breasts, and questions concerning these findings, for example, receive an easy response when the patient is stripped—a response which may not be forthcoming when the patient is entirely clothed. Removal of

<sup>1</sup> A Method of Determining the Mental Age During a Physical Examination—Archives of Neurology and Psychology. 11,669, June 1924.

The estimation was based on a study of responses to the following directions:

*Test I.*—"Close your eyes and touch the tip of your nose with the tip of your finger."

*Test II.*—"Spread your arms way out to the sides and then bring the tips of these two fingers together way in front of you with your eyes closed."

*Test III.*—"Close your eyes and put your left heel on your right knee."

*Test IV.*—"Now take this card and go to the wall; with your back to the wall put the card over your left eye and read aloud the top letter on that chart."

*Test V.*—"Put your hands way out in front of you, palms downward; then spread out your fingers far apart and turn them around until they are palms upward; then stick out your tongue."

clothing seems to correspond in many patients to removal of a defensive armor, a resistance, which, in the usual method often requires numerous psychiatric interviews to overcome. A number of infantile tendencies are revealed. Some older children will romp about the room happily and reply to questions more naively than in the usual interview. It was the opinion of the six psychiatrists who observed the method presented in this paper, that productivity was greatly enhanced.

Whatever the psychology of the situation, whether it be ascribed to acceptance of the doctor due to the social training of the patient; to evaluation of him as a kind of authority who utilizes various procedures which the patient does not understand and attributes to superior powers and wisdom; to an infantile attitude towards him as parent; or to an inability to achieve various affectations in the absence of clothing—there seems no doubt that the physical examination offers an unusual advantage for the establishment of quick rapport.

The examination described in this paper is not a substitute for the psychiatric interviews that follow. It is designed to (a) open up a number of questions which are left to the psychiatrist for further investigation. For example, a patient responds with special sensitivity to thinness as a "body difference." This response is not elaborated at the time of the "psychiatric-physical." It brings out especially (b) response to physical deformity and to variations in body strength and appearance from the patient's point of view. It (c) offers an advantageous situation in which to inquire about knowledge of sex differences, sex activity, and (d) response to growth. In short, it utilizes during the physical examination those phases of the psychiatric, that involve the patient's responses to differences in his body from that of the grown-up, the opposite sex, and the group norm.

The records of the first twenty patients in the order of examination are cited and demonstrate the method used and its elaboration. Limited at first to the patient's replies to questions concerning parts of his body, there developed four groups of inquiries:

- I. Anatomic variations, including response to scars and injuries;
- II. Height, weight, strength and appearance;
- III. Body growth and maturity;
- IV. Knowledge of sex, sex differences and sex practices.



The patients in this series were examined without knowledge of complaints for which they were referred, the attempt being to make the investigation as free from direction as possible. In preparing the material a brief summary of all other investigations, social, psychometric, physical, are first recorded. In all but a few cases, the "psychiatric-physical" preceded the psychiatric interview.

In the comment, an attempt is made to designate the leads, and to bind together the findings from all sources into a comprehensive whole. In doing this one is always in danger, in an admittedly incomplete study, of over-speculation. On the other hand, not to utilize the clinical advantage gained through the various contributions in this field, especially from the psychoanalyst and "individual psychologist" as well as the more direct experience gained from child guidance clinics, would be to leave our material as an interesting but rather useless body of information. We have tried to exhaust at least, the suggestive value of our findings. Of the terms employed under the heading Comment, "over-protective factors" may require explanation. They represent those factors in the experience of the parents that exaggerate protective feelings and behavior on behalf of their offspring. Such factors would tend to infantilize the child, that is, to prevent the usual social development and yield typical sets of complaints in the form of temper tantrums, irresponsibility, and the like.

On the more physical side special attention has been given to various lip movements, mouth and finger deformities. In the case of mask movements to protect ugly teeth, we have an example in which a slight discrepancy from the usual appearance of teeth (especially crooked upper incisors) may influence the size of the smile, the freedom of lip movements during conversation, and in that way the personality of the patient besides creating greater lip tension.

The method is not generally applicable. There are some children, as there are adults, who resist the physical examination, or cooperate with much tension. This may be due to poor preparation for the physical examination by parents, especially in the case of children who have been tricked into coming, to previous experience with doctors who have hurt or have operated, to false modesty, or to general resistant behavior. In the case of severe

deformity, questions during exposure may not be well tolerated—a likelihood in one of our cases.<sup>2</sup>

In such cases, utilization of the physical examination for more than physical diagnosis is to be avoided.

The method is intended to be used by the psychiatrist who continues the treatment.

During the examination more than one adult was always present; for boys, usually the previous medical examiner; for girls, a woman physician or social worker. In a few instances the mother or a relative was present. Notes were taken as in the physical examination in the presence of the patient. These factors did not seem to prevent good rapport, though it would be preferable to have no one present besides examiner and patient. In the case of girls no examination was made without the presence of a woman. Where slightest resistance to undressing appeared, the girl was examined clothed.

The method of questioning is, of course, not standardized, nor should it be. The examiner will follow what leads he gets and will, according to his experience, know when to inquire and when not to inquire. The use of a questionnaire or a standardized procedure would, I think, be fatal to such an investigation. A careful study of the case records will show how the very process of standardizing this situation would defeat its purpose; namely, that of securing certain data by taking advantage of the "naturalness" of the situation. Further such "standardization" would render the responses less accurate insofar as it would diminish the yield in response made possible by the play of individual skill and elasticity of method. Our objective in technic is not to study responses to a "standardized situation" as in a mental test where the accuracy lies in standardizing and scoring, but in "opening up" the child psychologically, a process which formal testing methods must fail to do.

The procedure is as follows: At the end of the physical examination, the patient, still undressed, is told "Now I am going to ask you about your body. Now you're the doctor and are going to examine yourself. Tell me, what have you noticed about your hair? Is it different from other people's? What have you noticed about

<sup>2</sup> A patient not in this series. He was a seven-year-old boy who became resistant when questioned concerning a scar covering the lower half of the abdomen. When dressed, however, he discussed his scar freely.

your ears?" And so with skull, eyes, ears, etc.—completing questions on body parts. At the end of these questions the patient is asked "What part of your body would you like changed, if you could change it? And what else?" etc. Whenever possible the patient is reassured by minimizing differences that he exaggerates.

Questions are then asked concerning size, strength, weight and appearance. "Are you as tall as other fellows? In your class at school where do you put yourself for looks—at top, middle or bottom?" Make sure patient understands, and follow any leads he contributes.

Then questions are asked to elicit response to growth and maturity. For example: "What is the difference between you and a grown up man? Would you like to be all grown up? Would you like to have hair on your body? Are you going to be married some day?" (For girls—"Would you like to have a baby some day?")

Questions are then asked concerning sex parts, sex differences, sex activities, and birth. For example: "What is the difference between a boy's body and a girl's? Between a man's and a woman's? What is that (points to nipples)? What is that (points to navel)? What is that (points to genitals)? How do babies come? How long does it take?" etc., to ascertain knowledge of pregnancy, coitus, birth.

We note spontaneous replies in contrast with direct responses to questions and to prodding; various body tensions in response to different questions; spontaneity in response to questions about body parts, in contrast for example to questions in any other group.

The details of the method can be followed only in the case illustrations.

The group consists of twenty children; fourteen boys, six girls. The median age of the males is 10 years; range 5 to 15. The range of intelligence is from average to very superior; 8 average, 5 superior, 1 very superior. The six females are ages 8, 9, 10, 11, 12 and 13, respectively. Three are average in intelligence by tests, two superior and one dull and backward.

They are a fair sampling of I. C. G. cases. Three are delinquents (Nos. 6, 8, 20, referred for stealing, truancy, and incorrigibility). Five are referred primarily because of poor school work (Nos. 10, 12, 13, 15, 18). Four are referred because of disobedience at home or in school (Nos. 9, 16, 19, 20). Two are "irre-

sponsible" (Nos. 1, 14) and show immature behavior; one is slovenly in school work (No. 4), another "inattentive" (No. 3); another socially withdrawn (No. 17). A boy is referred because of stuttering (No. 2), another because of reading disability (No. 7), a third because of one instance of stealing (No. 5). In general, the problems presented are in the mild group of behavior difficulties.

(In the physical examinations that follow, special attention has been paid to the effect of thumbsucking on fingers; and to the mouth. These notations are included in the "psychiatric-physicals." All physical examinations were made by Dr. H. Lippman, physician at the I. C. G.)

#### CASE STUDIES.

CASE NO. 1 (I. C. G. No. 227)—B. Male. Age: 9 years 8 months. Service: Dr. Leonard.

A 9½-year-old boy, the fourth of four children with two cruel, bullying older brothers, is referred because he is irresponsible (never on time for meals, loses articles frequently, leaves his clothes anywhere), day dreams and avoids group play. From infancy until 8 years of age he was babied by a grandmother who has since left the house where he is not favored by the mother. The father, non-supporting, alcoholic and cruel, was divorced during patient's infancy. About a year ago the patient had a struggle with an older boy who pounded him on the genitals. He is superior according to intelligence and performance tests (I. Q. 129). Physical findings reveal a linear traumatic scar over right groin; healed perforation left ear drum with slightly impaired hearing on left; irregular teeth with overbite; undescended testicles; signs of old rickets (flat chest, Harrison groove, flat feet, slight knock knees). He quits hopping on either foot after three trials because of pain in the knees (a condition which he obviously exaggerates), though no actual retardation of movement in any joint (history of attacks of tonsillitis, arthritis, left otitis media). There is a small papule three inches below the right nipple, resembling a flattened nipple.

*Psychiatric-Physical.*—In this case only the sensitivity to differences in body characteristics and response to growth were investigated. He has especially noticed the (1) supernumerary nipple (boys asked him why he has a third one); (2) absence of testicles; (3) that he is weaker than other boys. He wants to stay his age. He does not want to grow up.

*Comments.*—This boy's response is consistent with his rôle in the family and with the complaints presented—infantile behavior. The infantile rôle that had its development in an overprotective grandmother and a home life in which he, the youngest, is bullied by the older brothers, is reenforced by actual physical handicap. He resents growth, wants to stay his age—factors in keeping with a wish to remain infantile and protected. He exaggerated a handicap during the physical examination, a response suggesting that he may probably use physical ailment as a pretext on behalf of his self-esteem

and to get out of difficulty. His investigation of the scrotum and the "traumatic" sex experience offer a basis for associating sex with trauma and physical inferiority besides undue interest in genitalia and a fear of older boys. The anomalous nipple gives further basis for developing ideas of marked difference. Questions that arise immediately from this investigation for further psychiatric study:

Does patient explain "absence" of testes on basis of traumatic experience?

His theory of third nipple in relation to his sex rôle?

Evaluation of the factors given that tend to make permanent an infantile rôle and resistance to growth? (Grandmother by babying makes it difficult for him to emerge from infancy; his brothers force him down if he does try to assert himself; his physical weakness and bad experience are further handicaps.)

CASE No. 2 (I. C. G. No. 257).—deR. Male. Age: 12 years 1 month. Service: Dr. Leonard.

A 12-year-old, stuttering, fat boy of superior intelligence, the youngest of three, whose father, ill with glaucoma and aortic aneurysm, terrifies him by punishment under slightest pretext, whose mother overprotects and prevents his playing with other boys, lives in an apartment building in which all other families are colored. He was referred because of stuttering and "post choreic" tremor. At school he is a leader, good natured and cheerful in spite of teasing about his clumsiness. At home, he does chores and is obedient. There has been much talk in the family of illness, including the patient's, with frequent expression of anxiety over his stuttering.

Developmental and medical history are unimportant. Except for clumsiness and fine tremor of spread out fingers neurological examination is negative. He is 16 pounds above the median weight for his age and height, has hypo-pituitary type of obesity and small genitals. He has flat feet and knock knees. Basal metabolism normal. There was unusually good cooperation for all examinations.

All tests indicate superior intelligence and educational achievement.

*Response to Body Parts.*—He responds especially to (1) his stuttering, (2) large abdomen, (3) small penis, (4) knock knees and flat feet, (5) tremor (fine tremor of outstretched fingers), (6) a scar on his skull, (7) bitten nails, (8) various veins on his body especially one on body of penis.

"The boys mock my speech, but I take it good humoredly." (Stuttering.)

*Sex Activity—Sex Differences—Birth.*—He masturbates and as part of the masturbation he pulls the organ between his legs to make it look like a vagina. He knows about coitus and birth.

*Comment.*—This boy is interested in minute physical differences (as compared with others in this series) and has evidently spent much time inspecting his body. For the origin of this excessive interest we have the following considerations: (1) The family conversation in which illness is a pet topic, and maternal overanxiety about health; (2) actual contrast with other boys on the basis of the responses enumerated; (3) contrast with his sister and exaggerated interest in sex differences on the basis of his small organ to which noticing the vein on the penis and the attempt

to imitate a vagina (a not unusual practice with boys) may be related; (4) increased interest in body difference because he lives among negroes; (5) because he is "different" in that he stutters, is superior, and a leader, and therefore more than ordinarily interested in other differences in himself.

CASE No. 3 (I. C. No. 361).—Male. Age: 7 years 6 months. Service: Dr. King.

A curly haired, intelligent boy of  $7\frac{1}{2}$ , the older of two children, referred because of inattentiveness in school; teasing other children, and constant play for attention. His training is divided among a doting aunt and mother, and a strict father, who is absent from home for long periods due to theatrical work. His clothes and appearance have been strongly emphasized, due partially to his work as model for photographers. He has been shown off to adults, and prevented from play with companions his own age.

Physical examination not significant. I. Q. Stanford Binet—117.

*Body Observations.*—His hair is "curly." "Lots of people think it's pretty." The prettiest part of his face are "the things I talk." People admire his hair most. He himself likes his eyes and hair most. He looks in the mirror very often. His best color is gray and the best color tie is black. If he were a girl he would wear white, pink and blue dresses.

*Sex Differences—Birth.*—Boys "on the street" "call me 'Sissy.' They are jealous of my hair." He does not want his long curls cut. He prefers to be a boy so he can save all the girls. There is a war in the park between the boys and girls; he is on the girls' side. He has day fantasies of saving girls and of himself changing into a girl, as also in a dream. (He actually is the girls' defender at school, though with them he is rough in play.) . . . All ladies' babies drink out of them (points to his nipples). . . . "God makes babies . . . by truth." Girls have just holes with long hairs (he has often seen mother and aunt naked).

There are "two eggs" in the scrotum "to let the water come out." (He has no name for navel or penis.) His penis is "little," "father's is big and has hairs."

*Size—Strength—Appearance.*—He is the strongest in his class (that he repeats—also that he is the best looking).

*Growth.*—He does not want to get old, "not so old so I could have whiskers." Does not want hair on his body.

*Comment.*—The aunt insisted on being present, otherwise she would not permit the examination. How strongly she influenced it we do not know; however, she interfered several times to deny his replies that showed feminine tendencies. These are strongly suggested. He wants to retain his curls; he knows in what colors he looks best, what he would wear if he were a girl; he spends much time posing before a mirror and fantasies being a girl. He is on the girls' side. His defense of sissiness is quite like a girl's defence of her sex against the taunts of boys. In contrast with other boys in this series, he, like girls, is especially aware of his good "points"—his hair and eyes. The problem presented in sex differentiation is striking.



We have, in explanation on the basis of the facts given, the following: (1) He lives in practically a female world; (2) has not been allowed to associate with children, hence to acquire their social attitudes; (3) in the home because of parental occupation color and costume have been stressed; (4) he has been encouraged and praised for his cues which the mother wants retained for commercial reasons.

His protest against body hair is not unusual. His wish not to grow up may be related to the overprotection at home and to the fact that with age he can no longer pose for photographers.

His play for attention and other symptoms are easily related to the social background in which he has literally and figuratively lived in front of the camera.

His differentiation of the sexes is by breast and genital differences only, in conformity with his experience.

His defence of girls is probably symptomatic of his identification with the female sex.

CASE NO. 4 (I. C. G. No. 267). F.—Male. Age: 10 years 7 months. Service: Dr. King.

An unusually bright, effeminate looking boy of 10, third of five children, bullied by an older brother, favored by the mother, is referred because of slovenliness in work and appearance and for school placement. He is extremely fond of reading, doesn't attempt to make friends, and has little interest in games. The mother, previously an employee in her husband's business, was always opposed by the paternal side of the family, because she was regarded as mentally and socially inferior. She is a slovenly housekeeper, inadequate and highly emotional, nags husband and children constantly, yet very active in the management of family affairs and withdraws contact from agencies as soon as they play other than a passive rôle in satisfying her demands. The father, a good provider, but much worried with an unsuccessful business, avoids home life as much as possible, leaving the burdens of the family to his wife. The patient's older brother has always been incorrigible at home and at one time was sent to a disciplinary school.

Birth history negative. Severe pertussis shortly after birth with much parental anxiety. Always "delicate," though an attractive baby, much admired by neighbors. Yearly attacks of bronchitis until age 7. No developmental delay. Physically, rather tall with large hips, slight gynecomastia, inverted nipples, increased suprapubic fat, flat feet, slight knock knees. He scores especially high on all tests, educational (E. A. 16 years 6 months), intelligence (M. A. 16 years 4 months, I. Q. 161), and mechanical (about median for age 12).

*Examination Limited to Response to Body Parts.*—He has noticed especially (1) his inverted nipples; (2) fat belly; (3) small genitals; (4) small ears; (5) a small nœvus on the abdomen; and (6) general obesity. His nipples are different "other kids' nipples stand out." He has noticed the nipples of many women through their waists. He has had the pimple (nœvus) since birth. He believes his mother has one in the same place, though he does not know why. He has never seen it nor has he seen

any female nude. He has compared his genitals with other boys' and notices that his are small and he knows that girls have "something different." "They say it looks like a sandwich." The kids have noticed his nipples.

*Comment.*—Special interest in breasts, in this case, is easily understood in view of his inverted nipples. His certainty that his mother has a *nævus* on the abdomen like his own, and his sensitivity to obesity and small genitals, would direct us to further study of his possible identification with the female rôle. His awareness of small ears is of interest in the same connection.

Note a similar combination of factors here as in case No. 227—favored by a parent, bullied by a brother, avoids group play, superior in intelligence, sensitivity to nipples and genitals, and a complaint relating to infantile behavior.

CASE No. 5 (I. C. G. No. 358).—A. Male. Age: 14 years. Service: Dr. Tiebout.

A short, illnourished, intelligent, 14-year-old boy, the fifth of seven children, all male, is referred while on court probation because of stealing (one instance). The father is harsh and corporally punishes the children, except the first born—his favorite. He is especially severe with the patient. The older four sons contribute earnings to the family and have been more successful in school than the patient, who is two years retarded. The father has threatened to throw the patient out if he will not contribute money to the family within two years. The patient quarrels with the next older brother. He is very fond of the mother who *strongly favors him*, and greatly resents his father.

Birth weight was said to have been 14 pounds; from the seventh to the ninth month of pregnancy mother had bearing down pains.

Development history is negative. When 18 months old he had a convulsion attributed to scalding, and was seriously ill with gastroenteritis age 26-29 months. Physical examination shows about eight linear traumatic scars on various parts of the body including the skull. Dirty, carious teeth. Secondary sex characteristics are not established. He is three inches under his median height. Basal metabolism and X-ray of skull negative. Mental tests indicate average intelligence. Educational achievement corresponds to grade 6 A, one grade below his present placement.

*Response to Body Parts.*—He has noticed especially (1) his shortness; (2) his small penis; (3) "funny shaped skull" (measurements are normal); (4) "holes" in his skull (these are not holes, but linear scars two inches in length); (5) "rotten teeth, all full of holes"; (6) thinness. He talks interestedly and at length about his scars acquired in fights and accidents.

*Growth and Maturity.*—He does not want to grow up because grown-ups get "hunched back." "If you marry you can't play any more."

*Sex Differences—Birth.*—(Spontaneously.) He accidentally saw his parents in a sex act, from his description, coitus à tergo. "It was something bad." In the past few weeks he saw another act in the usual position in a

nearby lot. His own penis is small. He knows a boy who has the largest one. His older brother has pubic hair and a larger one. He has seen a boy masturbate in the classroom, partially concealing the act. He denies masturbation.

*Comment.*—Sensitivity to shortness and thinness especially in a competitive family of boys is easily understood, since he has often matched his body, his strength, and also his penis against the older brothers. His sensitivity to a "funny shaped skull" in the absence of such findings suggests excessive interest and observation of the body which may have had its origin in the differences mentioned, or in the small penis, or in the mother's overcare that started in infancy. Factors explanatory of maternal overprotection are at hand in (1) the infantile convulsion and the scalding; (2) the very serious three months' illness in which he lost much weight; and (3) the relatively more difficult pregnancy. The psychology significance of "holes" and of "hunchback" remains to be studied.

Our patient appears very much interested in his scars, a potentially good pretext, along with his infantile accident of which he has been told, for his interpretation of failure.

His "resistance" to growth as in the two preceding cases may be related to fear of competition, since he has been "infantilized" by the mother and "held down" by the brothers. That is, with growth, he will lose his favored position and will have to be on his own, a point especially emphasized by the father's threat of expulsion.

In what way the accidental sex scene complicates his antagonism to the father, and the stealing (which at present appears to be chiefly compensatory to his rôle in the family), remain to be investigated.

CASE No. 6 (I. C. G. No. 370).—C. Male. Age: 13 years 4 months. Service: Dr. Tiebout.

A strong, intelligent, colored boy of 13, badly neglected by a tuberculous, highly irritable father and an alcoholic mother, who has boarded out with his brothers and sisters since the age of 9—highly favored by the boarding housekeeper since he passes for white, is referred because of stealing and incorrigibility. He first got into trouble in grade 1 for exposing himself. He is proud of his reputation as the neighborhood bad boy, resists group play or any activity requiring submission to rules and expresses strong antagonism to his father, to an older feeble-minded brother, and to the group in general; yet overly sensitive and fearful of injury. Because of his color he says he is disliked by both colored and white. Development history is negative. He had pleuritis at 10, acute nephritis at 11, and at the onset of both illnesses had several convulsions. Physical examination is negative, except for high grade myopia. (He refuses to wear his glasses because "he doesn't look nice with them.")

School grade VII. Mental tests: Stanford-Binet I. Q. 103; educational and achievement equivalent to grade VIII-B.

*Response to Body Parts.*—(This boy is a very light negro, with straight hair.) He has noticed especially; (1) hair growth over the pubis (scanty

pubic hair); (2) coated tongue; (3) Harrisons' groove; (4) scars on the hand and right knee; (5) low hanging testes.

*Growth and Maturity.*—He does not like the pubic hair. He will shave it off, there or anywhere else. He does not like hair anywhere except on his head—"it makes you look like an ape." The scar on his hand is due to a razor cut when he attempted to shave himself at the age of 5. His older brother is "half-witted and hairy."

"I don't want to grow up. I'd rather be like I am now. You can't get no fun out of life when you grow up. You get old and get rheumatism." He will never marry. "It's tough luck to get married—tough luck for the man. Women are money pickers, gold pickers."

He regards himself as strong and of good height.

*Sex Differences—Birth.*—He knows about the sex act. His brother had rectal intercourse with the younger brother. He would "kill a guy who would do that to me." Denies masturbation. His testes are lower he thinks because of an accident, though he is not clear as to what the accident is.

*Comment.*—This boy, who is distinctly favored in a family of negroes because he "passes" for white, reacts strikingly to hairy growth. He will; (1) shave off all his hair ("it makes you look like an ape"); (2) he has a scar resulting from an attempt to shave at 5; (3) his oldest brother, he says, is "half-witted and hairy"; and (4) he has noticed especially his beginning pubic beard. These responses are consistent with racial sensitivity, more exaggerated than usual in his case, because of special status in the family circle through skin color. The fear of kinky hair is probably bound up with resistance to growth and maturity. This important problem requires further investigation than the limits of the "psychiatric-physical" examination allow. At this point, we know, nevertheless, that the concept of hair is associated in our patient with negro, ape, half-wit and probably growth and responsibility. His antagonistic reaction towards authority, which constitutes the chief difficulty presented, is considered part and parcel of his racial problem in which the direction is set by early antagonism to the father. The relation of this attitude to women in general is left to further investigation. The bellicose attitude to a sex scene between his brothers, his explanation that his low-hanging testes are due to an accident, are also items for further study.

CASE No. 7 (I. C. G. No. 371).—C. Female. Age 9 years 11 months. Service: Dr. Leonard.

An obedient, intelligent, shy, undernourished girl of 9, the youngest of three children, referred because of school retardation, has special reading disability (dyslexia), of which she is sensitive. Occasionally she malinger illness to stay out of school, day dreams and plays for the most part alone with her dolls. The mother dominates the family which by pooling all earnings is self-supporting, in spite of the father, a chronic alcoholic, who does not contribute, and is absent from the home for weeks at a time. When in contact with the patient he spoils her and interferes with the mother's discipline. Birth and developmental history are negative except that words

were not clearly enunciated until 5. Left handedness was changed without difficulty at that age. She had a severe illness at 18 months with symptoms of fever, diarrhoea, vomiting and weakness of the lower limbs; it was not diagnosed. She complains of daily fatigue.

Physical examination reveals poor posture and nutrition, moderate hyperopia.

Stanford-Binet I. Q. 104. Reading difficulty is typical of dyslexia.

*Psychiatric-Physical.*—Nine-year-old girl who blushes, is very shy, has to be encouraged, is examined with her underthings on. Her smile is "slight" (never a "full" smile).

*Response to Body Parts.*—Her hair is black and straight. She would rather have curly hair and has curled it occasionally with an iron. She does not like her teeth (the upper incisors are slightly crooked). Her sister's teeth are pretty and she smiles much more than she (patient) does. (She has a number of lip movements—one of them bringing upper lip down over the upper teeth and sucking it with the lower. This lip movement is probably a mask movement to cover the upper teeth). The part of her body she would like to change especially is her hair. Though her hands are unusually slender and well-shaped she apparently never thought of them as pretty.

*Size—Appearance—Growth.*—She is neither thin nor fat and does not want to change her weight. She wishes she were grown up "because then you can have prettier clothes and don't have to go to school." After replying "no," she said she would like to be married but never to have a baby.

*Sex Differences—Birth.*—She does not know how babies come and never saw her brother undressed. She knows the differences, however, between a boy and a girl.

(She was a left thumb sucker—the left thumb nail is slightly broader at the base than the right, and the creases on the ball of her left thumb are wider than on the right.)

*Comment.*—Interesting are the masking lip movements, probably to cover crooked upper incisors, and the resulting incomplete smiling. The second phase of this movement, lip-sucking, may be related to previous (cured) thumbsucking as a modified form. How far a masking movement of this type may influence total personality is still speculative; yet its significance may be appreciated in view of the fact that the movement carries with it a consciousness of a difference that must always be concealed.

Given a child, sensitized to crooked teeth by family observations and contrasts, who uses a masking movement. Her social behavior would then contain a factor tending toward self-consciousness and recessive behavior. The hampering effect of such a tendency on "spontaneous" social growth of our patient may be revealed in the inadequacy of her smile, because of masked lip movements. When we add other points of sensitivity and difference as in this case, delay in speaking, "straight" hair, and the more recent school problem, dyslexia, with resulting school retardation, the recessive trends should be strengthened. That would help explain the shy be-

havior, malingering, daydreaming and solitary play. Awareness of contrasting good points might offset, partially at least, such a trend, but our patient, unlike most girls, is unaware of her good points—pretty face and hands. In fact, she selects her hair—which is in no way unusual, as the part of the body she would most like to change. Actually she has not been told that her face and hands are pretty—an important bit of neglect in this case, and a symptom also of the general insecurity in this home.

"To grow up and not to have to go to school" is related to her school retardation. "To be married but never have a baby" is an unusual response with girls, more usual is the reverse—not to be married but to have a baby.

CASE No. 8 (I. C. G. No. 375).—H. Male. Age: 12 years. Service: Dr. Leonard.

A short 12-year-old boy of average intelligence, the second of four children, is referred because of truancy, petty thieving, evasive lying, bed wetting, day dreaming and irresponsibility. He complains frequently of head and abdominal pain; during mental test, of pain in his hand from writing. For the past two years he and a younger sister have been living at an orphanage. His brother, the oldest child, lives with the father. His mother died when the patient was 7. Developmental history is negative. Tonsillectomy at 9, lobar pneumonia when age 7 and 10; fracture of skull at 7 with good recovery. Physical examination shows two linear scars of right brow, and two slight scars in both hands, perforated left ear drum. Neurological examination negative. Muscle power good. He is four inches below median height. Tests show average intelligence and educational achievement.

*Body Observations.*—Hair is very light blonde. He likes his hair. Boys call him "Whitey." Gives in great detail the accident causing a superficial scar on the right brow. He "looked better before he got it." Gives detailed stories of accidents causing several superficial scars on his hands. His teeth, he has been told, are pretty. His nails are flat (brittle).

*Size—Strength—Appearance.*—He is "average in looks," is "pretty big" (tall), but skinny. "I would like to be strong with lots of hair." If he could change his body—in any way, he would be stronger. He is smaller than most boys his age, but bigger than a certain 11-year-old but "not quite sure."

*Growth.*—He would like to grow up and be strong.

*Sex Differences—Birth.*—His penis is "medium." He refers to the scrotal contents as testicles (he has received sex information from a physician). He never saw a nude female, but boys have described the female genital to him as a "pear with the stem off." "Ladies have breasts for babies." "The belly button is a scar when my mother gets a baby . . . she has an air pipe so you can breathe." He was in his mother's body when he was born. He knows about coitus, "It is a bad thing to do to a girl, but not to a lady." He once saw a man masturbating openly. At home boys played with their genitals. He describes masturbation; first denies, then admits erection, but not masturbation.



*Comment.*—Though but 53 inches tall, his two friends, one age 14 and the other 11, are as short or shorter than he. He is not as sensitive to his height therefore as he might otherwise be, and chooses strength rather than height in response to the question of body changes. He does not resent growth. In view of his irresponsible behavior, daydreaming, and evasive lying, one might have anticipated "resistance" to growth, and hair, as in other such boys in this series. How much the orphanage experience and his delinquent behavior which have brought the boy's gang activities into greater prominence have contributed to this response, we do not know.

His detailed description of scars and the accidents causing them may be in relation with his exaggeration of body sensations as during the mental tests, and his many excuses for evasion of school work and other responsibilities.

He is evidently withholding facts about masturbation. Knowledge of sex differences is complete.

CASE No. 9 (I. C. G. No. 383).—H. Female. Age: 13 years. Service: Dr. Levy.

A bright, healthy girl of 13, the only child of a Christian Science practitioner who is overattentive and nagging, whose stepfather plays a negative rôle in the family, is referred by her school because of poor school discipline and "crushes on teachers." The mother has impressed on the patient the necessity of defence against aggressive sex tendencies. She still occasionally takes her in to bed with her. Developmental and medical history are unimportant.

Physical examination shows breast development and pubic hair of about a 16-year-old. There is a fair degree of myopia, corrected by glasses. Interested in every phase of the examination she asks numerous questions. She scores in the superior group in intelligence tests and has just been promoted to first year high school.

*Response to Body Parts.*—She describes her hair as "sort of muddy looking." (Why bleached?) "Ask my mother." On her skull she has felt two little bumps. She likes her neck, which is "long and white." She does not like her eyebrows, "They are not quite the same." Her lower lashes should be longer. She likes her mouth and her nose, but not her lower jaw—"it is too long" (prominent chin). (There are frequent pulling down movements of the upper lip.) Her teeth are slightly crooked and also slightly yellow. If she could change any part of her body she would like to change only her face, "the lower jaw should be much shorter," and she would like to get rid of the rings under her eyes. Later she adds she does not like her legs, they are too large.

*Sex Differences—Birth.*—Her breasts are larger than some girls', but smaller than others. She has noticed nothing special about them. "They differ with age." She knows about sex differences and child birth. Boys have tried to "play with her." They have had their fingers on her breasts. She resents this (makes writhing movements of her body). "I keep away from them." She has been disgusted at the idea of her body being touched

by either boys or girls. "It sickens me. Don't get me on that subject, I could rant forever." Does not know the significance of navel. She resented menstruation, although prepared for it by mother.

She would rather be a girl because (1) "I hate boys." "Don't get me talking, I just hate them." Why do you look at me? What kind of complex have I got? Have I got an inverted sex complex? (2) "Being a girl I won't have to support anybody." (3) "I have to stop and think. Only that I hate boys so and they are all darn fools. They are so silly. I would rather have a girl look at me than a boy. If a boy looks at you it is just because you are a girl. If a girl looks at you it is a compliment. They are more critical." She rejects the suggestion of babies and of marriage. Very cooperative and apparently enjoys the whole procedure.

*Comment.*—We have in this case an expressed resentment against playing the feminine rôle and against the male sex. How genuine this is must be determined by further study. Her disgust at body contact may be a direct response to the attitude of the mother (a Christian Science practitioner) who has repeatedly warned her against such practices. "I told her that girls have monthly periods and get rid of their impurities through menstruation. Boys cannot and often have, without knowing why, vile thoughts and a strong desire to touch that part." Her over-interest in body parts may be related to interest in sex differences, to being constantly "on guard." The homosexual tendencies we may study as a derivative of the intensive mental and physical contact with the mother.

Interesting is the mask movement of pulling down the upper lip. However, when she brings molars in apposition the upper incisors almost completely cover the lower and the upper lip is rather short, with a slightly prognathic lower jaw. It would be necessary for the short upper lip to work downward more than normally for lip movements during conversation.

CASE NO. 10 (I. C. G. No. 391).—D. Female. Age: 10 years. Service: Dr. King.

A successful professional dancer, finding herself pregnant went on a visit to her mother to inquire about abortion. During the visit her mother died and her husband persuaded her to carry through the pregnancy, which she did, mourning meanwhile the death of her mother—and in the eighth month of pregnancy also the death of her husband, killed in an aviation accident. Birth was uneventful. The daughter is referred at the age of 10 because of school retardation, attention-getting behavior in the classroom, suspected stealing and sex talk (smutty stories). Since the age of three she has given exhibition dances, but with increasing age there has been less demand for her work.

The mother is suspicious, evasive and resentful of the school's interest in her child. She keeps a boarding house, is regarded by the school teachers as "fast" and does not get along with her sisters. Developmental history is negative.

Physical examination reveals a tall, thin, pretty girl, eighteen pounds below average weight for her height and age.

Intelligence tests indicate high average intelligence; educational tests show achievement equivalent to her present grade IV.

Girl appears shy and bashful. She runs to Miss Hovde, the laboratory technician, when the latter tried to leave the room at the end of the examination. She keeps her body covered with the sheet during the examination. Before it is over she runs to a corner to put on clothes, and then, sits down quite exposed though a screen is nearby.

*Response to Body Parts.*—Her hair is brown. "No, it is not pretty." "Why? I cannot praise myself. It is not as pretty as the others because it is not as long and not as curly." She has had the scar on the right cheek since 1925. It has made her face look different. She never cried because of it. Her teeth are crooked. She tries to keep her mouth closed so as not to show her teeth (upper lip is brought down over the top incisors which are slightly crooked). Her tongue is coated, she says (no coating observed). In response to the question of which part of her body she is ashamed of, she lowers her head, laughs slightly, then her eyes fill with tears. She is skinny and ashamed of it. The girls call her "Skinny bones." She tries lots of eating. If she is thin then she would not be pretty. Her mother wants her to be pretty. "I want the girls to think I am pretty."

Her hands are thin and the fingers long; her legs are thin. Her bones stick out. She is "tall and homely." "The kids tell me I am pretty, but they kid me. I am skinny." She would rather be dark than blonde.

*Growth—Maturity.*—Spontaneously: "I want a baby with curly hair like this." (She makes curly movements with her fingers on top of her head).

*Sex Differences—Birth.*—After a few questions—a girl's breasts grow larger. Later—boys wear pants. Babies are brought by stork. Then to further questions: "I was born in a hospital." "I don't want to get married, but I want a baby, but don't have to get married. You can buy babies—my mother went to a hospital where I was born." Further response to questions of sex differences: Hairs show on men, men wear ties and short socks.

*Comment.*—Her excessive modesty is in contrast with her experience on the stage and also with some of the complaints—aggressive attention-getting behavior and sex talk. It may be a defensive reaction to a sex problem, proof of general insecurity, or of poor preparation for the examinations. Her failures to denote sex differences is probably evidence of the same difficulty; that is, she is aware of sex behavior as a reason for the examinations and keeps under cover, as often happens in such cases.

Her response to body parts indicates an exaggerated feeling of inadequacy, a longing to be like others, probably also a lack of security through inadequate praise by the mother. She has a masking lip movement to hide what she thinks are unsightly teeth. Though others tell her she is pretty she considers herself tall, homely and skinny. She exaggerates the effect of a slight facial scar and thinks the affection of her mother and friends is affected by her thinness. The mother may herself have exaggerated this problem in view of the child's loss of earnings. In fact the mother's attitude

toward school and Institute study would be consistent with an overcritical attitude to the child, and lack of affection since the child was unwanted and a handicap to her work and pleasure. To want a baby though not a husband is a frequent wish among girls.

CASE No. II (I. C. G. No. 414).—F. Male. Age: 9 years 10 months. Service: Dr. Tiebout.

A tall intelligent boy of 10, 6 years older than the one other sibling, a sister, is referred because of fighting, bullying younger boys, stealing, restless behavior, and special reading disability. At home, he runs errands and helps in the care of his sister. Until a few months ago the parents used threats and corporal punishment; since then rewards and withdrawal of privileges, with better results. To counteract reverse tendencies he has been encouraged by the parents never to run away from fights and to play with boys his own age. He shows the psychiatrist his fighting pose, and is boastful. He has been told, he says, that the scar on his face will disappear if he keeps pushing it down. He has had much street life.

Developmental history is negative. Tonsillectomy at 5; eczematous body rash confined to the summer months of his seventh, eighth and ninth years variously treated and diagnosed. Mastoid operation. Tests indicate adequate intelligence. He is correctly placed in grade 3, according to educational achievement tests. Physical examination reveals a rather tall boy with adiposity of hypopituitary type and slightly small genitals (height 47.5 inches—weight 98.5 pounds). Scar over left mastoid; keloid scar 4 inches long, left cheek; scar right pelvic crest; scar, outer surface right thigh; several chicken pox scars, anterior chest. Slight knock knees and flat feet. Boastful of strength during physical examination.

*Body Observations.*—Points to a scar of mastoid operation. Says he did not even feel it done, did not even know it was there, but he himself calls attention to it during the physical examination. Later states that he has thought a great deal about it. His mother told him he was "almost dead." There is a scar of keloid formation extending from the right corner of the mouth to within an inch of the upper angle of the right jaw. "He was good looking until he had it. The doctor said it would never go away." This occurred in a fight with a boy who pulled out a razor. At first he thought the boy dropped the razor and did not have it with him during the fight. "Suppose the razor had cut me a little lower down" (shows his neck) "then I would have been killed." He is much afraid of operations.

*Size—Strength—Appearance—Growth.*—He would rather be just as he is. He would not like to have any part of his body changed. He is strong enough and tall enough. He would like to grow up but he would not like hair.

*Sex Differences—Birth.*—His nipples are not different from other boys'. Ladies' come out more. Has noticed his mother's breasts. Has noticed the navel, but does not know what it means. His penis is smaller than other boys'; it is circumcized. "Sunny has the biggest one. He is a good ball player and is the leader of the gang." In his scrotum there are two eggs.

"Girls have not got the same it is like a straight line." He gives the stork theory of birth. To the question "You don't believe that?" "No, it is in the mother's stomach and the belly opens up." He started masturbating at 5 years and quit—"My father said I should not do it."

*Comment.*—Most significant is his experience of operations and his fear of them. One of his scars, he thinks, has spoiled his good looks; consciousness of a small genital is emphasized by his masturbation and by his comparison with the leader of the gang, and probably by association with other scars.

Further questions suggested are his fear of death, relating to the early operation, to the mother's solicitude, to the razor experience, and to his possible fear of maturity.

It is worth noting here that mastoid scars probably evoke stronger responses than do other scars. This may be due to the seriousness of the operation itself, but more probably to the psychological response of the mother to any operation on the head, which carries with it an aftermath of oversolicitude and direct expression of anxiety as well as superstition about the effect of opening the skull. Knowledge of sex difference is still incomplete.

The main problem presented—fighting and bullying, activated by the parents as part of their plan to overcome his cowardice, and now become a self-motivated mechanism, may be explained on the basis of parental overprotection and urging, and his own compensatory striving on the basis of the physical problems enumerated. They remain as problems for further psychiatric study.

CASE No. 12 (I. C. G. No. 416).—L. Male. Age: 10 years. Service: Dr. Tiebout.

A 10-year-old boy of average intelligence, long anticipated by his parents after a succession of four daughters, is referred because of school retardation, clownish classroom behavior, fighting with smaller children, forgetfulness, restlessness, and inattention. He is the fifth of seven children and although much favored by the rest of the family, yields to the disciplinary father, a musician, who has had him practice the violin two to three hours daily for the past three years. He has been helped in his school work by each of the four sisters.

Developmental history is negative. At six he was in bed for 10 weeks with diphtheria. Glasses were prescribed a year ago, but he does not wear them. Besides the visual difficulty (myopia), physical examination reveals two superficial linear scars on the forehead, marginal blepharitis, phimosis. Tests indicate low average intelligence, consistent with performance tests. He is correctly placed according to his educational achievement in grade III. Musical ability according to Seashore Test, is no better than average for his age.

*Body Observations.*—His ears are a little big. There is a little red mark on his nose. When he fell out of bed once he hurt his mouth on the inside. They had to use pliers to get a bit of tin out (he describes in detail). He cannot open his mouth so wide on that side (there is really no difference according to our observation). His tongue is not so good; he cannot talk

so well (ascribed to the accident). (In showing his teeth he has greater action on the right and expressed pain when the left corner of the mouth is drawn back, which is changed easily by suggestion.)

*Size—Strength—Appearance—Growth.*—He wishes to be a little taller. He agrees that he is strong; had about ten fights and lost one. His hands are too small, on one of them a nail came off, he doesn't know which one.

He would like to be big and have hair on his arms. "When you are big you can go to shows." He has noticed pubic hair on other boys.

*Sex Differences—Birth.*—His "nits" (nipples) are smaller than other boys, then he says one nipple is higher than the other. Woman's nipple is bigger and it has hair on it. He has occasional erections, but denies masturbation. He describes the glans penis of a friend he saw. Lots of kids retract the foreskin. He has tried to retract his but is unsuccessful. (He has never seen his glans penis.) The first time he tried to retract it was about a year ago. A kid told him a girl had a different sex organ. It is round like an apple. A little round circle with a slit in the middle. He once saw a small girl naked. The doctor brings babies. He makes them in a machine. (At this point there is tightening of the neck muscles with the head slightly forward). He has noticed nothing in the scrotum though he previously told the physician he felt two testes there. (When the physician examined the scrotum he made withdrawing movements of the whole body.)

*Comment.*—This boy has exaggerated interest in body differences and exaggerates the effects of an accident (tongue, hands, ears, nose, nipples). Suggestive explanations as far as our facts permit follow: (1) He may contrast himself with his sisters, as an only boy in a family of girls, or through experiences with them; (2) his phimosis has accentuated a penis contrast and he is unsuccessful in his efforts to retract the foreskin; (3) his special sensitivity to examination of the genital (an extreme reaction), expression of ignorance about scrotal contents following a spontaneous remark about his testes, special observation of his nipples, evidence of evasion and much tension in response to questions about childbirth—all suggest that he has strong emotional conflicts over sex experiences which he is concealing; (4) exploitation of his accident as an evasion because of failure may be related to school difficulty and to lack of success in music, as well as a protective shift from sexual matters. (He talks at length and spontaneously about accidents; he dodges sex.) A response to the over-protection and infantilizing through mother and four sisters—an experience which may also explain his cowardice.

CASE NO. 13 (I. C. G. No. 417).—L. Male. Age: 13 years 6 months. Service: Dr. Leonard.

An oversized, intelligent boy of 13, the younger of three sons, whose discipline since the father's death three years ago, has been entrusted by the mother, who shifts responsibility, to her favored eldest son, is referred because he is failing in his present grade VII. When age 12, with a friend, he ran away from home, was held by the local sheriff and returned to his mother after two days. No further trauancies. He has been always



averse to school tasks. He is socially popular and self-reliant. The oldest brother, whose authority the patient resents, has always been very successful in school work.

Developmental history negative except nocturnal enuresis to age 10. Medical history unimportant. Physical examination reveals a tall, young adolescent, with adiposity of feminine type (height 5 feet 7 inches; weight 142 pounds) and female distribution of pubic hair; central scar of lower lip (dog bite). Five millimeters overbite of upper central incisors in the direction of infantile thumbsucking which he demonstrates. X-ray of sella and metabolism—negative

I. Q. 114. Educational achievement average for grade VIII. All tests are consistent with superior intelligence.

*Psychiatric-Physical.*—(During the examination he perspires freely under the arms, and has numerous lip movements especially drawing the upper lip downward.)

*Body Observations.*—His hair is not different from others. He combs it twice daily on the side, and has changed it several times in the last year, occasionally using some preparation to "make it stick." The skull, he says, is big, long and narrow. He points to a slight depression on his forehead due to an automobile accident that happened when he was five. It has made no difference to his appearance, he says. His nose is small; boys call him "Pug Nose." He has "buck teeth" (large mid-incisors, overbite, no spacing). On his lower lip there is a thin scar where he was bitten by a dog when age 5. He brought his lips right to the bull dog's lips to kiss him. (This apparently made no difference to his reaction to dogs, except to that particular bull dog. However, he had previous experience with dogs that were friendly.)

*Size—Strength—Appearance—Growth.*—"My whole body is fatter than most boys'." His legs and buttocks are fatter. His penis is of the same size. His breasts are different, "other boys don't have them." "Mine are fat." If he could change any part of his body he would be thinner; he would also have his nose changed.

He resents having hair on his face when he grows up, but doesn't care about it on the legs. He doesn't ever care to shave.

*Sex Differences—Birth.*—He gives the slang names for male and female genitals. He knows how babies are born, and that it take nine months to get one. A kid fourteen years old told him. Through information from the same source, without demonstration, he started masturbation. There was some tension at this point. He was reassured about masturbation and he was especially worried about emission. (Immediate and spontaneous.) "A woman has no testes, not so much muscle, her cheek bones are not so big, her breasts are bigger" (then a long pause) "her voice is higher."

*Comment.*—Of special interest is the patient's sensitivity to numerous details of appearance especially to obesity, nose, breasts; resentment against hair, especially facial; and the constant play of lip movements. He is fussy about his hair, and in stating sex anatomic differences pauses significantly

after the word "breasts." For his special sensitivity we have as explanation his own observation of such differences, overinterest through lack of sufficient contrast (?) with the female form. The perplexities or doubts he has developed on the basis of his similarity to females in regard to breasts and obesity (and possibly hair) is a problem for further investigation. To this problem is related also his resentment to the special male difference of facial hair, as potential homosexual trends(?). The aversion to school tasks may be partly related to competition with an unusually bright older brother whom he resents. The lip movement might, consistent with the general sensitivity to appearance, be directed to conceal his large upper central incisors, a movement probably related also to a previous thumbsucking.

CASE NO. 14 (I. C. G. No. 422).—W. Male. Age: 10 years 1 month. Service: Dr. Leonard.

A boy of 10, the older of two children and jealous of his favored younger sister, is referred because he is forgetful, day dreams, is disobedient at home, and does poor work in school in spite of superior intelligence. Mother, who is dissatisfied in marriage, is overanxious about him, nags, and constantly disagrees with the father in the management of the children because he is overly tolerant. Full term, instrumental delivery; difficult and prolonged labor, developmental delay (walking without support at 18 months, phrases at 24 months). No nutritional difficulties in infancy. Usual childhood diseases were mild. At 4, "very ill" with cervical lymph adenitis and in bed two to three weeks. At 5 examined at Cornell Clinic because of "occasional rash on face, loss of weight and nervousness," but physical findings were negative.

Physical examination shows a mild visual defect corrected by glasses; tallness and slight malnutrition, general slowness of movement and especially lessened mobility of facial muscles (no evidence of encephalitis).

Stanford-Binet.—I. Q. 116. Other tests consistent with this finding. He has repeated two terms in school.

*Body Observations.*—His hair is stubborn. Uses hair dressing about a year, once daily. His head is too large; so friends tell him. His ears are very large; his eyelashes very long; there is a "bump" on his nose since he has worn glasses in the past year; "I noticed my thumbs are longer than ordinary thumbs;" his lips are thin; he has noticed two small fingernail sized irregular areas of dilated venules on anterior right lower limb, just below the knee cap.

*Size—Strength—Appearance.*—He is "a bit good looking, but after I got the glasses I noticed a bump right here." For size and strength he thinks he is about "in the middle."

*Growing Up.*—He wants to grow up to be 19 or 20 and stay there. "Then you can go out to parties and you can have a good time."

*Sex Differences—Birth.*—He has no name for nipples. Women have "larger breasts for babies." (He was given the name for breasts.) Then he insists he remembers his own infantile nursing, "the breast looked very large." (He spreads out his hands about three feet). He remembers, he

says, the difference in taste between breast and bottle milk. He has seen his little sister, who is 5 years younger, at the breast but claims her position is different from his own. Has a name for penis, no name for testes, though he knows "there are two things in there." No idea of function. No name for navel. Babies, he thought, were ground out in a big machine, but his father told him "they grow in here." (Puts hand over abdomen.) He has no notion about birth or coitus, though he knows genital difference since he often sees the parents and sister naked.

*Sex Practices.*—He has "the habit." Mother told him it made him thin; father said, "It will make you sick." Mother said, "If you want to stay like a toothpick, you can do it."

*Comment.*—Since in this boy's family nakedness is not tabooed, genital difference is accepted naively with apparently little sex curiosity as far as our examination goes. Curiosity about other parts of his body however, is obviously excessive, since he notices the slightest body variations—the size of his thumb, length of lashes, size of head, thinness of lips, superficial veins on the leg—differences not at all discrepant with normal findings. A suggestion as to the genesis of this excessive interest is the parents' "masturbation threat" which involves thinness and illness. Minute exploration of his body would thus be an expression of his anxiety about the effects of masturbation, a point easily determined by further study. In any event we have a problem of preventing a potential hypochondria and destroying the effects of the masturbation threat.

It is interesting that this boy whose problem is presented in the form of infantile behavior (forgetfulness, irresponsibility) in which the parental relationship and the 5 year status of only child is clear (maternal over-protection, paternal indulgence) and who is jealous of the younger sister, claims to remember his experience, even posture, at the breast. It is impossible to check this memory.<sup>3</sup>

As jealousy of the younger sister and possibly a wish to remain in infancy this "memory" has suggestive value. His wish to grow up retains the "play" idea, with a usual wish to get rid of the disciplinary hygiene of childhood.

CASE No. 15 (I. C. G. No. 431).—M. Male. Age: 10 years. Service: Dr. King.

A healthy, ten-year-old boy, product of a single pregnancy complicated by pneumonia in the fifth year of marriage, is referred because of school retardation, special reading difficulty (dyslexia) and babyish behavior (frequently takes hold of adults' hands smiling up at them, cries readily, constantly demands mother's attention). His mother is overly anxious about him and overly attentive; the father, though affectionate, overly disciplinary and spansks him because of his difficulty in reading. Birth was normal. He was a feeding problem with much loss of weight from the third to the ninth

<sup>3</sup> For further data on similar memories of infancy see Hadfield, J. A. Reliability of Infantile Memories. *Brit. J. Medical Psychology*, 8, 87, 1928.

month. Medical history otherwise unimportant except circumcision in infancy, tonsillectomy at 4 and threatened mastoid at 5.

Physical examination negative. Mental test, Stanford-Binet, I. Q. 92. Outstanding difficulty in psychological tests is tendency to reversal of letters and words when reading (dyslexia).

*Body Observations.*—Hair is all clipped. He likes it that way. Has "noticed nothing" about his ear, though there is a *nævus* on the tragus. "Oh, yes, he had it since he was a little baby." He would like to have his eyelashes "white" instead of black, "it would look better." (Eyebrows are light.) His teeth are dirty and slanting out "since a little baby" (slight overbite of upper incisors). Fingernails are bitten (he was a left thumb-sucker, occasionally a right). When he laughs he has "holes." (dimples). He points to a superficial shoulder bruise where he has been hit by the parents.

*Size—Strength—Appearance—Growth.*—He is "good looking." "Father told me." He wants to grow up to be a man. Would like to have hair on his face but not on his body.

*Sex Differences—Birth.*—Girls' breasts are larger. He has seen his mother's breasts. Has never seen a female naked. Knows vulgar names for male and female genitals and for coitus. He defines coitus, "That is what men and ladies do to get a baby, and then they say they buy it." (Information from boys.) Boys have "done something" to him. (Indicates rectal intercourse.) His sex organ is "as big as other boys."

*Comment.*—Interest in his body is not excessive; on the contrary, it appears less than usual (*nævus*, eyebrows). Physically there are no deformities or special deviations from the normal. His response to growth is usual. His knowledge of sex differences is complete (breast, genitals, pregnancy, coitus) though vulgarized. Through neglect in this respect (unless treated) sexual life will represent to him only coarse and vulgar episodes. His passive rôle in homosexual rectal activity links up with his general submissive behavior, to which his rôle in the family is again related.

For this infantile rôle we have an explanation in the factors of maternal overprotection which are as follows:

- (1) an only child,
- (2) born after a period of 5 years sterility,
- (3) after a pregnancy which might have been aborted because of pneumonia,
- (4) and a period of three months of serious illness during infancy,
- (5) and a special school difficulty.

In such a case, the dyslexia would further the maternal overprotection and hence the infantilizing tendencies.

CASE No. 16 (I. C. G. No. 432).—L. Female. Age: 8 years. Services: Dr. Leonard.

A very pretty 8-year-old girl of subnormal intelligence, an only child, is referred because of disobedience, quarrelsomeness, restlessness, constant showing off, telling "smutty stories," and temper tantrums. She is the

illegitimate child of a dull, steady, hard-working mother, temporarily a wet nurse during period of lactation. The mother wishes to place the patient in an orphanage where she lived previously age 3 to 5. After 4 days of labor patient was born by Cæsarean section; otherwise birth history was negative. Child cried excessively during infancy, had eczema through the first year and had been treated for that condition at intervals since. No rash at present though she scratches herself frequently. Nocturnal enuresis until 6 months ago.

Stanford-Binet I. Q. 86. Physical examination shows chronic tonsilitis.

*Response to Body Parts.*—She likes her hair. It is black. She likes black best. She likes also the hair between her brows. Her eyes are black and lashes long. She will not name her nipples. She "is ashamed." "You are a man." She was told to whisper the answer to Miss H. and did. Boys' are different; she has seen them. Giggles and says "don't say that," with bashful movements (extending of arms—withdrawal of whole body—smiling—pushing). She squats on the floor with her hands over her knees. She is playful and answers the examiner until a question of sex differences is asked, then says, "Suppose there are a lot of mans here; I don't like to be naked." She puts on her underwear although in doing so she makes no movement to hide the body. Examination discontinued.

*Comment.*—This case though quite incomplete is inserted as an example of the resistance that one wants to avoid. This method of study is not adapted to this child; an attempt to continue the examination would really make it more difficult for the psychiatrist later. As long as she is naming her good points she responds well, as soon as questions are asked about sex differences she becomes resistant and "modest." As in a previous case of excessive modesty she was referred, among other things, for telling "smutty" stories.

For her markedly aggressive, egocentric behavior we have as suggestive evidence the fact that (1) she is an only child; (2) much admired for her prettiness; (3) chronic eczema during infancy causing marked restlessness and lack of an opportunity for usual modification by training; (4) separation from the mother in late infancy; (5) subnormal intelligence, preventing possibility of "showing off" constructively through school achievement.

CASE NO. 17 (I. C. G. No. 433).—B. Female. Age: 11 years 6 months. Service: Dr. King.

A bright, 11-year-old girl, a professional buck and wing dancer, youngest of three children is referred because she does not mix with other children and is unpopular in a professional children's school. Her 16-year-old brother with whom she acts has played a protective rôle and she readily accepts his care. Mother is neglectful of the children's appearance and according to the school exploits the patient's stage talent. The father, a successful business man, takes the same attitude as the mother. Developmental and medical history negative, except for a fracture of collar bone three years ago, and mastoid operation at three.

Intelligence tests, school achievements and grade progress are all superior.

Physical examination shows undue development of leg muscles in contrast with thin arms, and breast development equal to that of a fifteen-year-old girl. Right mastoid scar.

*Response to Body Parts.*—Hair has been bleached by the mother. She doesn't know how long. She points to a mastoid scar (right), she has tried to see it with a mirror but can't. She was three when they operated. Her mother told her she just pulled through.

*Size—Strength—Appearance.*—She puts herself in the "middle" for prettiness. No special response to her body. No contrast with other girls. If she could change her body she would like to be stronger in the arms "because you are useful if you are stronger in the arms."

*Growth.*—She would rather grow up, "Oh, everybody does." "I don't wish I were grown up, I would rather grow up gradually like everybody else. I would rather live my life."

*Sex Differences—Birth.*—"It takes masculine and feminine to have a baby." When she noticed her pubic hair she was embarrassed at first, then did not mind. Her breasts are unduly large. "Breasts get larger and women get milk for babies." She has thought about having babies but not "longingly." The navel is "belly button." She does not know what it is for. Children are born "in the stomach."

*Comment.*—Though this girl has breasts and pubic hair development of a 14- or 15-year-old, she is otherwise quite childlike in general appearance and behavior. There is a marked contrast of muscular lower and thin upper limbs due probably to her work as a buck and wing dancer. Her responses are quite naive, and she has displayed probably a lack of sex curiosity. She is represented in the school as a successful, obedient student, who never enters into class recitation unless she is asked, but does her work well. She is the small girl of her class. On the stage, is well taken care of by the brother and fully accepts his leadership. In response to the question of her hair she does not know how long it has been bleached, "but mother does." She is sensitive only to the thinness of her arms, a point made by her brother and which relates to her stage career. The infantile trust is consistent throughout. She is "fully protected" and identified with the brother. It is for that reason that we may explain her lack of sensitivity or interest in her body, her lack of awareness of her "good points," except for the thinness of her arms, a criticism which comes from the brother with whom she is closely identified. There is no need for her, therefore, to mingle with other girls, hence no need of their evaluations. The brother (who intends to leave the home for the stage) will take care of her. Her total dependency on the brother relationship though a protection from parental neglect represents the danger in her case, and her need of treatment. How far lack of sex curiosity results from free exposure of the sexes when young, is still to be determined.

CASE No. 18 (I. C. G. No. 434).—W. Female. Age: 12 years 7 months. Service: Dr. King.

A short, stout, bright girl of 12½ years, younger of two sisters, the second child of a second marriage, who lives alone with the mother in



a single room, is referred because she does not mix with other children in school, is "terribly inhibited," and though not failing, is doing poorer work in her studies than in the past year. The mother, once divorced, and now a widow in poor circumstances, is disgruntled, snobbish, very prudish about sex, an unstable worker occasionally threatening suicide, dresses her daughter in the fashion of a child years younger and keeps her away from companions. The patient has no friends, few recreational facilities, much phantasy play with dolls. Mother divorced her first husband because of alcoholism and non-support; her second husband, when patient was age 6, because of "incompatibility." Mother is evasive about reasons for the divorce. In her training, the mother, a Christian Scientist, has emphasized aggressive sex tendencies of males, and on one occasion called a policeman to arrest a sailor who "tried to touch" the daughter while they were walking on the street. The patient only laughed; the mother went to bed "because of the excitement." The older daughter, who lives away from home, is a successful stenographer. She is considered very pretty.

Tests indicate high average intelligence and achievement corresponding to her present grade VII.

Developmental and medical history are unimportant, except for a seven weeks illness, diphtheria with intubation followed by pneumonia, age 6½. Physical findings are those of early puberty. She is four pounds above and four inches below median standards. (Her height is 57.6 inches, weight 92 pounds.) Her breasts are rather large with bulging areolæ and small flat nipples.

*Response to Body Parts.*—She likes her hair. It is curly, is chestnut brown though her sister has prettier hair. She does not like her ears, "they stand out." She wants them smaller and she wants thicker hair. Her eyebrows should be darker and her lashes longer. Her lips "could be smaller, so could her mouth." Her upper teeth "should be straightened." She is most sensitive to her "chin; then her hips." (She has a double chin.) Her stomach is "too fat also." Her shoulders are a little too broad. She has freckles and "does not like people to notice them." She "likes" her dimples. "My hips are too broad, toes too long, and feet too large."

*Response to Size—Strength—Appearance—Growth.*—She is not good looking but other girls look "stagey." She is not good looking because other girls said she was not and she could not attract boys. "I don't like boys because I don't like them. That's why they don't like me."

*Response to Sex Difference—Birth.*—She does not like her breasts because they are too large. "Breasts are for nursing babies." "Women's body is too bulgy." Male body is better looking. "The male organ is better, it sticks out more." "The male organ looks like a pencil." "The woman's organ is like a clam or kidney." (She knows about coitus.) The male breasts are better, they do not bulge. She would rather be a boy because then she would not have breasts. She knows where children "come from." (She puts her hand over the abdomen.) Has the Cæsarean idea

of birth, but through a lateral linear incision. Once she slapped a boy who tried to kiss her. Once a girl tried to explain how babies come and she walked away. She never looks at her nude body in front of a mirror but walks by, giving a quick passing glance.

*Growth—Maturity.*—She wants to be a girl and remain at her present age so she can play. She would like to be married, but not to have children.

(During the examination, she sits on the examining table, smiles. There is much eye movement. While talking her feet swing, knees together, pendulumlike. She bites the inner surface of her lower lip, which, because of overbite, bunches between her teeth. There are frequent slight tongue protrusions "to keep her lips wet." The breasts are rather large for her age with bulging of the areola, and almost flat nipples.)

*Comment.*—Interesting are the apparent knowledge of sex differences; her sensitivity to breasts and buttocks, her preference for male anatomy, her conflict about looking at her body in front of a mirror. There is much resistance to growing up. She tells with apparent satisfaction of slapping a boy who made advances to her. Note the large number of body changes she would like to make, her evaluation of herself as homely, with the defence that she could be prettier if she would be "stagey"; that is, use make-up.

Preference for male or rejection of female anatomy is not explained by our data. We do know (as in case No. 9) that the mother has created an overdependency in the daughter preventing her from developing companions, and generally infantilizing her. Instruction against the aggressive male may have its basis partly in a desire to hold on to the daughter, not only as maternal outlet but as a social and economic security (as so often is the case of mothers and sons). The girl's slapping the boy who tried to kiss her, the mother's arresting the sailor, are symptoms of the exaggerated hostile reaction to sex of which the furtive glance at the patient's own body is a part.

In the mother's divorces, about which she remains evasive, we have a further source of the mother's sex difficulty and antagonism to males. With the background presented it is understandable at least, why this twelve-year-old girl, where breasts and buttocks are already large, should reject such evidence of sexuality. Her numerous other wishes for body changes may be related to rivalry with her very pretty sister. She has, it is evident, some insight into boys' dislike of her. Explanation of her frank penis-envy remains to be found in further psychiatric study.

Her wish to remain a girl is understood as a wish to remain in the infantile relationship with the mother, conflicting as it is with a wish for a childless marriage.

CASE No. 19 (I. C. G. No. 568).—P. Male. Age: 5 years 5 months. Service: Dr. Leonard.

A bright, disobedient boy, an only child, is referred by the mother because he requires mother's constant attention even in dressing, and is generally very contentious and quarrelsome with children. He is disliked in kindergarten

because he is domineering and a show-off. Affectionate and demonstrative with the father, who has always loved and played with him, he is rude and indifferent to the caresses of the mother (a graduate professional student, who has little affection for him though always overly attentive). When at nursery school, age 3, he never "wanted" to go home. He was exposed since birth to violent parental quarreling. Since the parents separated a year ago, he lives with the mother, visits the father weekly and hears much accusation of each by the other. Until age 4 he had violent temper tantrums in which he would break objects. He has frequent dreams and expressed wishes of killing people.

Medical and developmental history unimportant. Physical examination negative, except slight left inner strabismus, for which he wears glasses. By mental tests rates high average intelligence.

*Response to Body Parts.*—During the examination he romps and constantly asks to be lifted up for tricks. He shouts and laughs. His hair is "black" (actually blond). His head: "It is a nice head; don't you think it is?" His eyes are "all right" (wears glasses though they are not on during the examination, and has a slight internal left strabismus). The color is "black and blue" (actually brown). He designates his eyebrows and lashes and says: "They are black." His teeth are "all grown."

(Good looking?) "Well, nobody told me. I said to myself I am." (Embraces examiner.) Later to questions, says his mother told him so. "Yes," he has dimples. (He climbs on examiner.)

(Nipples?) "Girls have nipples. They make milk for babies." He saw somebody naked. Naughty girl showed him her back and showed him her navel, which she calls "dimples."

In there (scrotum) is a box for water and there are nipples inside." "One, two, three."

"Boy has a suit and girl has a dress." "A girl has hair down there." (What girl?) "My mother."

"Girls have to have one like that because they have to make pee-pee." Later questioning reveals his notion that females have penis, but that they have hair, as he has seen it on his mother's body. "I would like to be a boy all the time—because I like to play." "Men are bigger." They have hair (indicates on penis and arms). "Has seen father's genitals. He would rather be a boy because girls have to have dresses, because girls have to go first in the toilet. At school girls go first. That is because they are the "goodest ones in the world." "Girls go first because they cannot wait as long as boys to p—p—. Girls sit down to p—p—. That is because they like to." "Girls have a bigger one, the same kind as other boys."

"The father lies on top of mother and hits her." He "kicks her in the pants." "I would like to kill him, but I don't. I have no gun. I tried to kill him. I gave him a good hard hit on the hand, but he did not die. I like him now because he is all changed."

Boys call him "Dumbbell." They call him "Glass eye."

(All these questions are answered while he playfully jumps about, and laughs. Further questions get same response.) He does not want to grow up; he does not want to be big. He does not want to have hair. He wants to be a boy and play.

He has been told the story of birth and coitus. "The man has an egg. He puts it inside the mother. (For the egg, he indicates the urethral opening.) He puts it in the mother's body here (hand over chest)—the stomach. It stays there a year and then it comes through here (indicates again his urethral opening). It comes out so small (indicates with his fingers). Only mothers can have babies."

He has sucked his right thumb chiefly, occasionally left index finger. He used to masturbate also with the right hand but "I do not do it any more." His method—a continued slapping movement at the penis, no erection(?). A bigger boy used to do it to him that way. In thumb sucking he shows how the finger was inserted in the mouth. (It looks as though the pressure were chiefly on the lower incisors, of which the second pair are now half emerged. The skin grooving of the sucked thumb is deeper on the dorsal surface. Masturbation was only with the right hand.)

*Comment.*—This entire account was secured with remarkable ease. Of special interest is the contrast between the facts of experience and theory regarding coitus. What he has been told about coitus he knows as a probably interesting story. What he actually saw he does not recognize as coitus at all but as an attack on the mother; and theoretically, there seems no reason why the child should identify the account of coitus as he has learned it with the act he may accidentally behold; especially since he has the "urethral" idea of birth. Curiously he knows about sex differences, in pregnancy and coitus, though not the genital difference, a difficulty solved for him by his theory that the mother "urinates" the child through a male-like penis.

As to his notion of the female penis, he was either taught inadequately or adhered to his previous theory even in the presence of the naked mother—as Freud was the first to observe. In terms of his experience the female sex organ has hair. Still boys are superior because girls are "goodest" "and cannot wait," a superiority of bladder control, a notion apparently not derived from the genital difference.

That there is a frank "penis-envy" in girls and a corresponding "penis-superiority" in boys has been demonstrated in many children through psychiatric examination; in substantiation of adult psychoanalytic investigation where a girl notes the anatomic difference her response is typically that the boy has something which she hasn't. The "missing" object in the girl may then give rise to the theory that she has been robbed, and, in cases, occasion actual searching in the body for the lost phallus. (In a recent case, in a 7-year-old child such searching was frequent, and the theory that her brother robbed her was elaborated into the generalization that "all men have acquired their "thing" in that way, though, she adds, "but I don't believe that now, God made us this way".) In this case where a feeling of male superiority cannot be attributed to the discovery of the absence of

the organ in the female, and is, in fact, explained in terms of bladder control, we realize how a sense of such superiority may be derived from various sources, viz., difference in maternal and group attitudes toward the sexes, in strength and authority differences in parents, besides, as in this case, possibly, a strong preference for the father. The bladder or penis difference may thus vary greatly in its status in child-logic in different experiences.

The scrotum as a water tank for urine is a frequent notion and apparently a "logical" inference probably from the water closet. It contains "nipples" but he doesn't know how many.

He rejects the idea of growing up and has the common rejection of hair. He is already well aware of his visual difficulty and the name "Dumbbell" (he is actually bright). Thumbsucking and masturbating hand are the same in this case (as in almost all others in my experience when the one act succeeds the other).

His relation to the mother is a very dependent one, yet when in kindergarten he doesn't want to go home, and is quite able to do things for himself. This seems to conform to the picture presented by the mother as a woman who is overattentive to him yet undemonstrative and unaffectionate, a condition that may enable him to dominate her yet without an emotional dependency.

Further, the child's relation to the father is complicated not only by the parental quarreling, but by the fact that he has seen the father, whom he prefers, "assault" the mother. The same ambivalence is expressed in numerous forms in the psychiatric interviews that followed my examination, as first indicated in the context, "I gave him a good hard hit on the hand but he did not die. . . . I like him now because he is all changed."

His wanting to be a boy always and play instead of a "big man" may be related to his experience of grown-ups as fighting and quarreling, and also to the "overprotective" factors.

CASE NO. 20 (I. C. G. No. 632).—H. Male. Age: 8 years 8 months. Service: Dr. Tiebout.

A tall, intelligent, 8½-year-old boy, an only child, is referred because of temper tantrums, disobedience, soiling and fear of the dark. His father (irresponsible and nonsupporting) deserted during the first year of infancy; his mother, always an inadequate housekeeper now a private secretary, is indifferent to her son whom she sees only weekends in the home of the maternal grandmother who has taken over the entire responsibility of his care. The maternal grandfather, who lived with his wife until thrown out of the house four years ago, used to take the patient with him to speak-easies and "teach him to swear," and when drunk would be led back home by the patient. The father returned a year ago, threatened the household, quarreled with the mother for several weeks and again disappeared. The patient has been told by mother, grandmother, and maternal aunt many things derogatory to males and much about the importance of earning money. The grandmother is now trying to "successfully" remarry the mother of the patient.

Pregnancy was normal except for much worry over an unhappy marriage. Instrumental birth (low forceps) with asphyxia, position normal, resuscitated, no convulsions. He walked at 2 and talked at 3 years of age. Feeding was irregular. He was badly neglected during infancy. No enuresis since age 5. He soiled himself until age 8 and on a few occasions since. This was corrected by whipping, compulsory washing of clothes or forcing feces to his face. Temper tantrums chiefly in the form of kicking adults, now much improved. He had breathholding temper in infancy. He is apparently very fond of and very demonstrative with mother and grandmother.

At 7 a severe case of "influenza with marked drowsiness."

Physical examination reveals a fair degree of hyperopia with internal strabismus not well corrected by glasses, bitten fingernails, left handedness, erection of penis during examination. No neurological evidence of epidemic encephalitis.

Tests indicate low average intelligence with educational achievement corresponding to his present grade 2 B, and a typical reading disability, dyslexia.

*Response to Body Parts.*—One eye is turned in. Would rather not wear glasses. He wears glasses to keep the eye from turning in. (He then describes in detail a shortening operation of the eye which is to be performed.) Whenever he fights he takes his glasses off and puts them in his pocket, because "glasses cost a lot of money." Then, spontaneously, "Mother spoiled me, gave me everything, never hit me. I am all right now, too."

He thinks his hair is the nicest part of his body "when it is combed."

*Response to Size—Strength—Appearance.*—He is taller than other kids; he is the strongest kid in the block: "Any kid will tell you that. Kids are afraid to get me mad. They know me. I don't use my right either, I use my left."

*Response to Growth—Maturity.*—He would like to grow up and make money. He would like to have hair on his body but only light hair. He will shave himself. His father is bigger. He has a moustache. "If we went to California and it was dark and I had a gun, I would shoot him." (Spontaneous.) His father has a bigger penis than he and has hair on it. "A lady has hair too." This latter observation he derives from seeing a lady naked when shade was up in her room across the street. He is "not sure" that he ever saw his mother naked.

He will never get married, No, never. Mother don't want me to get married. I will run off and nobody will support her. She's afraid I'll run away so she makes me afraid of getting married."

*Response to Sex Parts—Activities—Differences—Birth.*—The nipples are "titties." Girls are bigger. "Mother used to milk me there." "Mother's are long—these things (nipples) are bigger." "No, mine won't be big; I am not a girl." Girls have another difference "it is wiser." (He describes the vagina.) "I won't let them (the boys) tell me about that. I won't listen. My friends won't listen to that. It is bad to talk about this." He masturbates, using the right hand (he is left-handed); he will not masturbate with the left hand "I eat with the left hand and I don't want to wash it all



the time." He won't wash his right hand with his left but bites the washrag and rubs the right hand on it, while it is held by the teeth. He says he was 6 years old when he began. He knows he was 6 years old because it was his birthday. He was in the toilet, the kids outside were waiting to eat his birthday cake—it had white frosting, his name was printed on it. A 14-year-old boy masturbated him, in recent years. He was circumcized when he was little. He did not see it. His mother told about it. "It was disgusting." He does not know where babies come from, "Jesus borned them." "Mother got me from a doctor." Though he has heard a number of sex terms, he says he cannot define them. "Boys call me Sissy because I play with girls. I don't like no girls except my aunt."

*Comment.*—Of interest are his response to strength, his threat against the father; attitude towards marriage and mother; washing ritual after masturbation; avowed reaction of disgust to conversation on sex; and remarks that boys considered him a sissy.

We have in this case a boy who has been brought up exclusively by women. His early experience with males has been chiefly in the form of fighting, drinking and threatening the existence of mother and grandmother. That a strong reaction against the father with strong feminine influence and alliance would result is easily conceivable even without the constant dinning into him of facts about the unworthiness of men and the failure of marriage. That he threatens to murder the father, is always ready for a fight, and boasts about his strength, are facts explainable in terms of the background presented—preparation for a hostile environment, defence of mother and grandmother, a certain effeminacy resulting from living in a purely feminine world and reaction to taunts about his effeminacy. We have a young male "charged" with the protection of three females.

More significant than the threat against the father is the fact that it is not outspoken, as we might expect under the circumstances, but a conditioned one—"if it is dark; if I had a gun." For his "protective" threat we have an explanation in his lack of courage (note fear of the dark, infantilizing) and the fact that he has learned to hate the father not through his own experience of the latter's behavior, but through the mother's conversation. Moreover, he is much closer to the grandmother, who loves him, than to his mother, who is indifferent.

The remark that his mother makes him afraid of getting married to insure his support, represents either good insight or the repetition of something told him by his aunt or grandmother. We know that he is exposed to much mercenary conversation, that he knows the grandmother is trying to marry the mother into a rich family, that he must be "cured" for that reason among others and that the financial situation is precarious. Where the facts of life are exposed to a child so baldly, we might expect such deductions. He realizes at least that he is looked to for support later on in life. His 8-year-old ambition is consistently "to grow up and make money."

There is a marked contrast in sex activity—masturbation, mutual masturbation, peeping, and his statement that he won't listen when boys talk about

sex, that the story about circumcision is disgusting. This implies that we have much sex activity with much feeling of guilt and hypocrisy. The same conflict occurs in the masturbating act. He does it, but won't contaminate the left hand "the eating hand" with the masturbating hand. We have his story that the first act was followed immediately by eating (the birthday cake). The first masturbating act, we know, often has the greatest emotional value and its components may comprise the pattern for all such acts that follow. The usual guilt feeling, increased in our patient by his early training, and lack of contact with other children, is intensified by the birthday event, (which accurately orients the masturbation date), the name on the cake, the crowd, the association of the act with the toilet. The washing ritual is explained partly at least by the increased guilt through background and the immediate setting of the act, especially the fact that eating immediately followed the masturbation.

Complaints presented conform to a background of infantilizing. Yet we have extreme neglect as to feeding and training in the first few years. The infantilizing would explain the temper tantrums, disobedience, the fear of the dark, in which the overprotective factors are clear: (1) an only child; (2) of three women; (3) physical defect (strabismus); (4) no paternal modification. "Mother spoiled me, gave me everything, never hit me." We have a body of data that demonstrates the great importance of training in bowel and bladder modifications in the first year of life. How far the bowel and bladder control in this case depend on this factor; how far delayed walking and talking in an intelligent boy are due to lack of early stimulus; how far the former at least may be tied up with his masturbation, the data in this case so far give us no clues.

TABLE I.

SUMMARY OF FINDINGS IN PSYCHIATRIC-PHYSICAL EXAMINATION  
(20 CASES).

Case No.	(I. C. G.) Case No.	Sex.	Age.	
1	227	M	9	Sensitivity to supernumerary nipple. Sensitivity to absent testes. Sensitivity to weakness. Resistance to growth.
2	257	M	12	Sensitivity to small sex organs. Sensitivity to minor differences. Overinterest in body. Masturbation.
3	267	M	10	Special interest in breasts, nœvus, ears. Special interest in sex differences. Sensitivity to small genitals.
4	361	M	7	Strong feminine tendencies in response to appearance, to body parts. Boasts of strength and looks. Knowledge of sex differences limited to breasts and genitals. Resents growth.
5	368	M	14	Sensitivity to shortness, thinness, small genitals, scars, and other minor differences. Resents growth. Exposure to sexual scenes.
6	370	M	13	Sensitivity to hairy growth. Resistance to growth. Exposure to sexual scenes. Hostility to females.
7	371	F	9	Sensitivity to mouth, hair, teeth. Incomplete knowledge of sex differences. Lack of awareness of good points.
8	375	M	12	Sensitivity to shortness. Over-interest in body scars.
9	383	F	13	Special hostility to males. Special sensitivity to being touched. Special sensitivity to crooked teeth and numerous minor differences.
10	391	F	10	Special sensitivity to thinness, hair, teeth, scar. Incomplete knowledge of sex differences.

TABLE I.—*Continued.*

Case No.	(I. C. G.) Case No.	Sex.	Age.	
11	414	M	9	Sensitivity to scars with fear of operations and death. Sensitivity to small penis. Masturbation.
12	416	M	10	Exaggeration of results of slight trauma. Sensitivity and overinterest in penis and minor body differences.
13	417	M	13	Sensitivity to nose, teeth, skull and minor differences. Sensitivity to obesity, breasts. Masturbation.
14	422	M	10	Interest in minute body differences. Masturbation. Incomplete knowledge of sex differences.
15	431	M	10	Vulgarized sex knowledge. Homosexual episodes.
16	432	F	8	Resistance to nakedness and to questions about body. General resistant behavior.
17	433	F	10	Sensitivity to thin arms. Lack of sex curiosity. Incomplete knowledge of sex differences.
18	434	F	12	Sensitivity to numerous æsthetic differences. Sensitivity to homeliness. Rejects female body, preference for male anatomy. Oversensitivity to nakedness.
19	568	M	5	Resistance to growth and maturity. Resistance to growing up. Incomplete knowledge of sex differences. Exposure to sexual scenes. Peculiar sex theories.
20	632	M	8	Boasts of strength. Hostility to opposite sex—to marriage. Masturbation guilt with washing ritual. Incomplete knowledge of sex differences.

TABLE II.

RESPONSES SHOWING SPECIAL INTEREST IN OR SENSITIVITY TO BODY PARTS  
IN 18 CHILDREN.\*

	Number of responses.		Number of responses.
<i>Skull</i> .....	4	<i>Chest</i> .....	6
Size or shape .....		Harrison's groove .....	1
<i>Hair</i> .....	6	Breast .....	
Straight .....	2	Supernumerary nipple. ....	1
Short .....	1	Inverted nipples .....	1
Thin .....	1	Small nipples .....	1
"Muddy" looking .....	1	Large breasts .....	2
Presence of hair over pubis .....	1	<i>Abdomen</i> .....	3
<i>Eyes</i> .....	6	Fat .....	3
Squint .....	1	<i>Genitals</i> .....	7
Eyebrows asymmetrical. ....	1	Undescended testes .....	1
Eyelashes .....		Small penis .....	4
Too short .....	1	Low hanging testes.....	1
Too long .....	1	Phimosis .....	1
Color .....	1	<i>Extremities</i> .....	12
Eyeglasses .....	1	<i>Lower</i>	
<i>Ears</i> .....	4	Legs .....	
Small .....	1	Too large .....	1
Big .....	2	Too thin .....	1
Flap .....	1	Knockknees .....	1
<i>Mouth</i> .....	13	Feet .....	
Large .....	1	Flat .....	1
Lips .....		Large .....	1
Thin .....	1	Toes .....	
Large .....	1	Long .....	1
Tongue .....		<i>Upper</i>	
Coated .....	2	Arms .....	
Teeth .....		Thin .....	1
Large incisors .....		Hands .....	
("buck") .....	1	Small .....	1
Rotten .....	1	Thin .....	1
Crooked upper incisors .....	4	Fingers .....	
Yellow upper incisors. ....	1	Long thumbs .....	1
Overbite .....	1	Finger nails .....	
<i>Nose</i> .....	2	Bitten .....	2
Small ("pug") .....	1	<i>Skin</i> .....	13
Shape ("bump") .....	1	Scars or naevus.....	8
<i>Face</i> .....	2	Freckles .....	1
Jaws .....		Bruises .....	2
Prognathic lower jaw. ....	1	Superfluous veins .....	2
Chin .....		<i>Tremor</i> .....	1
Double .....	1	<i>Total</i> .....	80

\* Of the remaining two of Series I, one child was uncooperative, and the other had only "good points."

TABLE III.

SENSITIVITY TO WEIGHT, HEIGHT, STRENGTH, APPEARANCE.

	Number of cases.
To obesity .....	2 (Nos. 4, 13)
thinness .....	3 (Nos. 8, 10, 14)
shortness .....	2 (Nos. 5, 8)
weakness .....	1 (No. 1)
homeliness .....	2 (Nos. 10, 18)



TABLE IV.

## SPECIAL RESPONSES OF PATIENTS TO PHYSICAL FINDINGS.

Case No.	Age.	Sex.	Physical findings.	Response.
1	9	M	Supernumerary nipple.	Boys ask him why he has a third one. He has noticed it especially.
4	10	M	Inverted nipple	His nipples are different, "other kids' nipples stand out." He has noticed the nipples of many women through their waists.
6	13	M	Pubic hair	He resents appearance of hair on any part of his body except the head, "it makes you look like an ape." An oldest brother is "half witted and hairy." He has a scar on his hand from a razor cut when trying to shave himself, age 5. He says he will shave off all his hair.
10	10	F	Thinness	She is ashamed of it. Her eyes fill with tears. The girls call her "skinny-bones." Her bones stick out. Her mother wants her to be pretty. If she is thin, she cannot be pretty, etc.
11	9	M	Keloid scar right cheek.	"I was good looking until I had it. The doctor said it would never go away." He has tried pushing it down to make it disappear. If the cut had been a little lower down then "I would have been killed."
12	10	M	Phimosis	He has tried to retract his foreskin but unsuccessfully. He describes the glans penis of a friend. Withdraws quickly at examination of scrotum.
13	13	M	Obesity	"My whole body is fatter than most boys." His breasts are different; "other boys don't have them," "mine are fat." If he could change any part of his body he would be thinner.
18	12	F	Large breasts, bulging areolæ.	She does not like her breasts because they are too large. "Woman's body is too bulgy." The male breasts are better, they do not bulge. She would rather be a boy because then she would not have breasts.

TABLE V.  
PHYSICAL FINDINGS AND PATIENTS' RESPONSES TO THEM.

No.	Physical findings.	Response.	Known sources.	Probable sources.
1. Male. Age 9 years. Superior intelligence.	Scar on groin. Diminished hearing left. Irregular teeth and overbite. Undescended testicles. Signs of old rickets (knock-knees, etc.) Superumerary nipple.	— — — + — +	— — — Investigation. Observation by other boys.	— — — Trauma to genitals. Bullied by older brothers.
	— Arthritis knees.	+ +	Weakness. Pain.	
2. Male. Age 12 years. Superior intelligence.	16 pounds overweight. Flat feet—knock-knees. Fine tremor spread out fingers. Small genitals. Scar on skull. Bitten nails. —	+ + + + + + +	Contrast with boys. Contrast with boys. Contrast with boys. Observation of other boys.	Excessive interest in body differences on basis of differences themselves, on father's chronic illness, contrast with sister, with boys, on fact that his is only white family among negroes.
3. Male. Age 7 years. Superior intelligence.	Nothing significant except curls.	—	But especially aware of "good points" (hair and eyes) and wants to retain curls.	Brought up exclusively by females, lack of association with other children, commercial poser, theatrical environment.

TABLE V.—Continued.

No.	Physical findings,	Response.	Known sources.	Probable sources.
4. Male. Age 10 years.	Tallness.	—		Excessive interest on basis of actual contrasts, maternal over-protection, much early admiration by others, "delicate health," superior intelligence.
	Obesity	+	Comparison with others.	
	Inverted nipples.	+	Comparison with others.	
	Flat feet—knock-knees.	—		
	Small nœvus on abdomen.	+	Comparison with others.	
	—	+	Comparison with others.	
	—	+		
5. Male. Age 14 years.	3 inches below median height.	+		Excessive interest based on maternal overcare and failure in competition.
	8 traumatic scars.	+	Comparison and competition with older brother.	
	Dirty carious teeth.	+	"	
	Absence secondary sex characteristics.	+	"	
	—	+	"	
	—	+	"	
	—	+	"	
	—	+	"	
	—	+	"	
6. Male. Age 13 years.	Myopia.	+	(Refuses to wear glasses.)	Excessive interest based on racial sensitivity, favored because of white appearance, hairy, feeble-minded brother.
	(Coated tongue.)			
	(Harrison's groove.)			
	Scars hand and right knee.			
	—	+	(Low hanging testes.)	
	—	+	(Pubic hair.)	





TABLE V.—Continued.

No.	Physical findings.	Response.	Known sources.	Probable sources.
13. Male. Age 13 years. Superior intelligence.	Tallness.	—		
	"Feminine" adiposity.	+	Self contrast with boys.	Excessive interest on basis of differences themselves, similarity of female form (especially breasts), rejection of facial and body hair.
	Female distribution of pubic hair.	—		
	Scar lower lip.	+	Observation.	
	Overbite and large incisors.	+	Observation.	
	—	+		
14. Male. Age 10 years. Superior intelligence.	Very slight depression on forehead.	+	"Pug" nose.	
	Visual defect (corrected by glasses.)	+	Skull depression, etc.	
	Tallness.	—		
	Slight malnutrition.	—		
	Slowness of movement.	—	Parents' threats.	Excessive interest in body differences on basis of masturbation threat and anxiety, maternal over-anxiety and actual physical differences (vision and malnutrition).
	—	+	Self observation.	
	—	+	Self observation.	
	—	+	Self observation.	
	—	+	he wears glasses.	
	—	+	Thumbs too long.	
15. Male. Age 10 years. Average intelligence.	Thin lips.	+	Self observation.	
	Surface veins.	+	Self observation.	
	Nævus on tragus.	—		
	Bitten nails.	+	Observation.	
	Dirty teeth—slight over-bite.	+	Observation.	
	—	+	Wants eyelashes "white."	



TABLE V.—Continued.

No.	Physical findings.	Response.	Known sources.	Probable sources.
17. Female. Age 11 years. Superior intelligence.	Breast development corresponds to about age 15. Contrasting muscular legs and thin arms. Scar of mastoid.	— + +		Lack of sensitivity except to thin arms explained by protective rôle of brother (see case record).
18. Female. Age 12 Years. Average intelligence.	4 pounds above median weight. 4 inches below median height. Large breasts, bulging areolæ, flattened nipples. — — — — — Slightly crooked upper incisors. + Freckles. — — —	+ (Hips.) — + + Flap ears large. + Thin hair. + Light eyebrows. + Short eyelashes. + Lips and mouth large. + + Double chin. + Shoulders broad. + Long toes. + Large feet. + Homely.	Contrast of obesity.	Excessive sex interest and self-consciousness based on maternal care and training; sister rivalry; socially unsuccessful; desire to be male.

TABLE V.—Continued.

No.	Physical findings.	Response.	Known sources.	Probable sources.
19. Male. Age 5 years.	Slight left convergent strabismus (wears glasses.)	—		
Average intelligence.				
20. Male. Age 8 years.	Hyperopia (wears glasses.)	+	Observation.	Strong fighting attitude based on early background (see case No. 20 for details).
Average intelligence.	Internal strabismus.	+		
	Bitten finger nails.	+		
	—	+		
	—	+		

Where obesity is noted, response to separate obese body parts not included in this table.  
 — under "Physical Findings" indicates no abnormality or no finding present to which patient responds.  
 — and + under "Response" indicate no response and response implying special interest or feeling that part indicated is inferior or unsatisfactory from patient's point of view.

## RESPONSE TO BODY PARTS.

It is interesting in view of the fact that although our patients presented no evidence of gross deformity or physical disease, there are 80 responses indicating special interest or sensitivity to a part of the body considered atypical or inferior by them (Table II). The problems presented are chiefly æsthetic; only four can be interpreted as interfering with function (knock-knees, 1; flat feet, 1; squint, 1; tremor, 1). Most of them refer to parts of the body visible when clothed (skull, 4; hair of head, 5; eyes, ears, nose, face, mouth, jaws, chin, 27; hands, fingers, finger nails, 6; skin of face, 6). Thirteen responses have to do with breasts and genitals. The genital responses were exclusively in boys, in keeping with the visibility and frequent opportunity for the matching of these organs. Breast responses occurred in boys, five out of six times. This may be due partly to the chance nature of our material (cases of supernumerary and inverted nipples); to the fact that boys are much more frequently exposed to each other's nakedness and are frank in their observations. Further, in two girls where breasts were unduly large for their age, no special responses were elicited. With increasing adolescence no doubt, girls acquire greater sensitivity to breast differences.

Responses to the skull in contrast with most other parts of the body may more likely be felt than seen. In three out of four cases in this group the patient demonstrates by feeling his head. It has a "funny shape" (No. 5); it is "big, long and narrow," there is something "here" indicating a slight depression on the forehead (No. 13); here are "bumps" (parietal prominences, No. 9). In the fourth of this group, a boy of 10, friends tell him his head is too large. In two of these cases there is a history of minor skull injury, and in both, scars. All four patients showing response to shape of skull are in the group of 10 indicated as having "excessive body interest." Further, if we add to these all cases of scars of the skull, we have eight cases in all, of which seven are in the "excessive interest group."\*

\* Other patients with scars of skull:

No. 2, male, age 12: merely indicated. He is interested in various veins on his body besides other physical differences.

No. 11, male, age 9: scar left mastoid, also keloid scar left cheek, besides several other body scars. He has thought a great deal about it (mastoid

We have, therefore, a strong suggestion that special response to the skull may be indicative of excessive interest in body parts (or processes), also, that injury to the skull may be correlated with excessive body interest. (Questions for the purpose of revealing special interest in respiration, heart action, bowel action, and the like were not asked.)

In a small and selected group such as we have studied, statistical norms or formulations are out of the question. Otherwise excessive body interest might be defined in a relatively quantitative way. Certainly the difference between merely indicating a mastoid scar, even attempting to see it in a mirror as in case No. 17, appears quite "typical" as compared with the response to such a scar in case No. 11 (he has thought a great deal about it; his mother told him he was almost dead) in which other similar responses occur.

It happens that all but one of the 10 cases marked "excessive interest" have six or more responses; the exception having five. The others have each four or less. The determination of "excessive interest" was not based on quantity of response alone, but also on the type of response, the part of the body selected and the correspondence between responses and objective findings.

There appears no significant relation between the actual number of physical findings and responses in our series, but we are led to assume a significant relation between severity of finding and response (*e. g.*, obesity and thinness in Nos. 2 and 10 respectively). It may be stated here that the routine physical examination at the Institute includes only the usual measurements for height, skull circumference and diameters, without measuring arm length, finger length, etc. It must be mentioned again that no serious deformities or illness occur in this group.

---

scar). His mother told him he was almost dead (see case record). Many other responses to minute differences, ear, nose, thumb, surface veins, etc.

No. 12, male, age 10: two superficial linear scars of forehead. No response to scars directly but excessive number of responses and exaggeration of symptoms—little red mark on nose, opening of mouth, tongue, hands, nipples, phimosis.

No. 17, female, age 11. Right mastoid scar. She has tried to see it with a mirror but couldn't. Mother told her she just pulled through. But in this case there is if anything a minimum of response to body parts. (See case record.)

## EXCESSIVE BODY INTEREST.

As compared with the others, patients denoted as having excessive interest in the body are characterized by the frequency of their responses, exaggeration of minor deviations, and concern over or special interest in normal findings.

The cause or causes of such excessive interest cannot be stated with certainty from our data which yield, however, the following suggestively etiologic situations (see Table V) :

1. Maternal overprotection of which excessive body interest may be a symptom (cases Nos. 4, 5, 9, 12, 14, 18).<sup>\*</sup> This condition would operate very frequently, involving as it may much query as to the child's state of health, excessive inspection and concern over body processes, trifling variations in color, energy, or general appearance, quick maternal response to any statement concerning health by the child, besides oversolicitude during actual illness or in response to deformity, in fact, to the child's entire life experience.

By maternal overprotection, it may conveniently be stated here, we mean excessive care and solicitude of a child by mother or mother substitutes. As we have no measure of normal maternal care and solicitude (a measure which would vary with different groups, at different times and places) we are led to infer its value through experience with children who have it in obvious excess or privation. When we examine the overprotected child, we find that it is the target of excessive devotion under typical conditions which may briefly be sketched here :

I. Conditions narrowing the emotional life of the parent because of marital conflict or absence of father, difficulty with family or relatives, lack of contact with neighbors, absence of interests ("secondary interests") in the form of amusements, culture, and the like. Any of these and their combinations, by restricting sexual and social satisfactions, aside from the pure factor of time allotted to offspring, tend to make the child or children bear the entire brunt of the mother's emotional needs. In this group are mothers or mother substitutes, who live entirely for their children, who have nothing but their children (examples in cases Nos. 3, 9, 14, 18, 20).

<sup>\*</sup> For maternal attitudes as affected by gross deformities in the child, see Allen, F. H., and Pearson, G. H. J., *Brit. J. of Medical Psychology* 8, 212, 1928.

II. Conditions in which the offspring are made to solve unsatisfied ambitions and conflicts of the parents. These need not necessarily go in the direction of excessive body care. Cowardly or anxious parents, for example, may be prone to exaggerate strength and fighting, or fear of fighting. Mothers, who are sex prudes, may exaggerate the child's interest in sex behavior and genitalia through their constant prohibition (cases Nos. 9, 18). Parents, who always played a responsible rôle in their family, or, noted for their efficiency, are prone to do many things for their offspring because of ego-satisfactions. They cannot hold back and let the child learn. The directions of parental interest, through their personality difficulties, are obviously manifold, and need briefly be mentioned here. In parents of Group II, the emphasis is placed on activity in relation to offspring. They are "manipulating" the child in the direction of their personality difficulties. In Group I, parents act through overdependency on offspring because of their own impoverished emotional lives. Both mechanisms are not, of course, mutually exclusive.

III. Parents who "overprotect" through immaturity or ignorance. There are often marked vacillations in this group from overprotection to neglect. Parents, for example, themselves childish, may badly pamper an offspring to "discard it" as soon as it presents a difficulty or a new offspring arrives (no example in this series).

IV. Conditions primarily related to the child intensifying maternal protective attitudes: (a) Prolonged anticipatory phase, as in case of a wanted child who follows a number of miscarriages, threatened abortion, stillbirth, or prolonged period of sterility; (b) child endeared through death of siblings, or through lack of other siblings (only child); (c) child whose life is jeopardized in infancy by accident or illness, who is delicate, weak, deformed; or (d) for whatever reason is socially maladjusted, especially if he is unliked or mistreated by father, other siblings or children.

V. Conditions in which overprotection results through lack of modification of the child's social life, primarily because of absence or negative rôle of father, or play life with other children. This is a group in which the child rather than the mother suffers from an incomplete social life, with resulting "expansion" of personality and prolongation of infantile traits, not primarily because of over-



protection but through lack of modifying influences (a factor, for example, in cases Nos. 3, 9, 18).

When we examine our series in terms of overprotection, we find that nine cases conform to the conditions described (cases Nos. 2, 3, 4, 5, 9, 14, 15, 18, 20). Of these six show excessive body interest and two exaggeration or boasting of appearance or strength (cases Nos. 3, 20).<sup>\*</sup>

2. A history of severe or prolonged illness, severe or frequent injuries. This would re-enforce maternal overprotection or evoke it. Besides, the physician may err in his psychologic handling of the patient through excessive caution, and medical conversation, and thereby aid in causing overconcern in the child, even anxiety over disease and death. Mastoid operations may call forth maternal oversolicitude more strongly than serious infectious disease, because of the more unusual and radical nature of that step, the period of fearful anticipation, and also probably because of the exaggerated response to mutilation of the body, especially of the skull.

Any illness in the early weeks of infancy may more likely elicit maternal anxiety than later, when the child is older and more robust. How far illnesses and accidents in our patients influenced parental attitudes, we do not know. Three of the four cases in our series, whose illnesses or accidents were certainly more serious than in the usual medical childhood history, fall in the "excessive body interest" group. Patient No. 4 had a severe case of pertussis shortly after birth, was always "delicate" and had yearly attacks of bronchitis up to age 7. Patient No. 5 had a convulsion after being scalded at 18 months of age—and in his third year was seriously ill for three months with "gastroenteritis." Another at 6 years of age (No. 18) had to be intubated for diphtheria.

3. Families in which illness is a frequent problem. These include families with history of frequent illnesses or accidents, or presence of an invalid in the family (As in case No. 2).

4. Family conversation in which health, appearance, sickness, and the like, are frequent topics.

<sup>\*</sup>No. 1 is questionable. He was babied by the grandmother, though not by his mother, and bullied by his older brothers. His father deserted. He has 5 "points of sensitivity."

No. 19 is also questionable. His mother, although infantilizing him, has little affection for him.

Illness, as the main topic of conversation, in case No. 2, was probably derived from the illness of the father, an invalid, besides the patient's tremor. In the case of D, a girl of 10, the mother exaggerated the importance of thinness, probably due to the importance of body form in exhibition dancing.<sup>7</sup>

On the other hand we see the result in case No. 3 of constantly praising body form, though we have not included such cases in the excessive body interest group. H, a 9-year-old boy, a photographer's model, had exaggerated body interest, which was expressed only in terms of self-appreciation and superiority.

5. Marked actual variations of patient's body within the family or larger group, thereby affording more likelihood of contrasting oneself with others; *e. g.*, a boy in a family of girls, or *vice versa* (case No. 2) and with only female parents or parent substitutes (case No. 3); a white boy in a family of negroes (case No. 6) or in a negro neighborhood (case No. 2). So with all variations in size, weight, color, strength, appearance marked by their discrepancies with the patient's group.

6. Variations in body form or function exaggerated in importance because they carry special significance to the group or individual. In boys, for example, where gang play or competition among siblings occurs frequent in derogatory contrast are shortness, weakness, thinness, small penis (as, *e. g.*, in cases Nos. 1, 4, 5, 8, 11, 12); in girls, facies, hair, obesity (tallness) (as, *e. g.*, in cases Nos. 7, 9, 10, 18). These differences are related chiefly to size and strength in boys, to physical attractiveness in girls.<sup>8</sup>

Undue significance may be attached to any body part on the basis of individual sensitivities of parent, siblings, or child, or

<sup>7</sup>Through stress on one body part, the child may generalize and become derogatory of the entire appearance as in "skinny bones" (No. 10).

<sup>8</sup>Of course, it is not to be implied from this study that response to genitals in boys in terms of length of the penis has the same significance as height, or length of arms, legs, etc., which are matched probably more frequently. Masturbation, masturbation threats, castration, and potency ideas, which may be related specifically to size of organ have obviously more meaning to the individual, and influence on behavior. What may be implied, however, is that the penis may be matched by boys like any other part of the body, regardless of what other significance (besides length) it had previously, or acquires later on.

special parent-child relationships. Through special sensitivity to one, sensitivity to various body parts, may develop, though not necessarily. On the basis of mother-daughter antagonism, for example, obesity was constantly criticized in one of our patients (not in this series). A boy, aged 10 (I. C. G. case No. 683, not in this series), had a sebaceous cyst below the left nipple that swelled up his left breast. In response to questions on this part of the body he said, "I thought it was going to be like my mother's and I could feed the babies. . . . If I had a baby at the breast I could be a girl." If a girl, he would be different "over here" (points to genitals).<sup>9</sup>

7. Special body interest related to sex training or experience, masturbation threats, sex conflicts.

W., age 10 (case No. 14), who has excessive body interest, was told by his parents that his thinness is due to masturbation (such threats are very common in "normal" family histories).

A., a girl of 13 (case No. 9), who had noticed all sorts of the slightest anatomical variations, has been frequently warned by her mother that boys will constantly try to touch her genital parts.

W., a girl of 12 (case No. 18), has likewise been warned to be on the alert against aggressive male tendencies. She responds especially to breasts, buttocks, besides numerous anatomic details.

B., age 9 (case No. 1), who appears to be sensitive to undescended testes, had an experience in which a boy hit him on the genitals.

L., age 10 (case No. 12), has tried to retract his foreskin unsuccessfully because of phimosis. He has noticed especially the glans penis of other boys and has excessive body interest.

The various factors suggested by our cases in explanation of excessive interest in body form or function have to do with parental over solicitude; illness and injury; exposure to sick people and sick talk; body variations significant to the patient because they

<sup>9</sup> Like F., a boy with inverted nipples (case No. 4), this patient is especially observant of women's breasts. Such cases demonstrate that sensitized body variations constitute a source of specialized interest in others. As common observation shows, women sensitive to obesity are especially aware of other obese women. Short men are especially observant of body height, etc. Sensitivity to breasts, as shown also by our patient, may be a source of speculation as to sex rôle.

stand in special contrast within his group; significant to group, hence to the patient, because they have special group values; or significant because of special experience or training.

The factors enumerated that conspire to make such excessive interest are by no means exhausted in this study. Special attitudes developed originally without reference to body parts may involve body interest as a symptom, *e. g.*, self-derogatory attitudes in which various anatomic details are scrutinized by the patient for various imperfections. Whether innate differences in organic sensations as in anal erotism, skin erotism, and the like, are related to excessive body interest, has not been demonstrated.<sup>10</sup>

The effect of excessive body interest on personality growth has not been investigated as a special problem. One thinks of such derivations as the development of ideas of difference in the form of uniqueness, inferiority, or superiority, or their incorporation with such ideas originating in other ways, and of various forms of narcissistic and withdrawing behavior resulting therefrom; of speculation about sex rôle when interest is centered on variations relating to secondary sex differences; and of exploitation of body differences as self-justification for failure, and the like (case No. 8). Its bearing on hypochondria is not clearly shown in these studies.<sup>11</sup> The relation of this problem to age cannot be determined from our young group. Further, there may be a difference resulting from interest in body contours and "surface differences" and interest in inner body processes.<sup>12</sup>

<sup>10</sup> Freud, S.; Collected Papers, Vol. II, London, Hogarth Press, 1924; Chap. 4, Character and Anal Erotism. Abraham, Karl; Selected Papers on Psychoanalysis, London, Hogarth Press, 1927; Chap. 24, Contributions to the Theory of the Anal Character. Jones, Ernest; Papers on Psychoanalysis, New York, William Wood & Co., p. 424. He relates hypochondria to "a damming back of the libido . . . into the internal organs," the result of which is "an excessive attraction of interest onto the sensations and functions of the organs concerned."

<sup>11</sup> The most direct relation of this kind occurred in a boy of 7 who in response to a superficial scar of the forehead said: "It makes me weak." (I. C. G. case No. 199.)

<sup>12</sup> One may divide in this way body interest of boys in four groups; one having to do with lengths and strength; a second, with length of penis; a third, with body forms and contours, related to secondary sex differences; a fourth, with interest in body processes, especially bowel movements. The first two would be derived from competition among males, including strength

The relatively large number of responses to the mouth (Table II) suggests that part of the face as the one most productive of "sensitivity" consistent with the fact that it is the most mobile and socially active portion, and ordinarily most frequently observed. In this group of head and face parts the order of frequency is: teeth, 8; eyes, 6; hair, 5; but it must be remembered that the group studied is small and selected, that certain body parts by definition make possible a larger number of responses than others (*e. g.*, eye, which includes eyebrows, lashes, lids, pupils, eyeball, etc.).

Response to crooked teeth, as previously mentioned, has special significance because of the mask movements employed to conceal them or make them less prominent. Such movements consist of bringing the upper lip downward (if upper incisors are crooked), of bringing a finger to mid upper lip, of various hand-to-mouth gestures, even of preventing lips from widening during smile or conversation (*e. g.*, cases Nos. 7, 10, 13, 18). Of this slight deviation we see a possible effect on the entire spontaneity of facial expression and speech, and would tend toward recessive behavior. Conceivably, any deformity or variation in the visible mouth area causing sensitivity might evoke similar performance.

Factors causing limitation of lip movements and their effect on total personality, as well as the reverse (*e. g.*, full smiling because of pretty teeth that have been praised) await further study.

Restraining lip movements likewise would cause increase of lip tension. In case No. 18 because of over-bite, the inner surface of the lower lip is bunched between upper and lower incisors. The patient has the habit of biting it on that portion. A prognathic lower or upper jaw or short upper lip are factors conceivably causing greater lip tension by making approximation of lips a more active process than usual.<sup>18</sup>

Responses to extremities are chiefly in terms of length and volume. There is but one to knock-knees, a condition like bowlegs

in the form of sex potency; the third, would have to do with sex contrast; the fourth, with visceral sensations. Theoretically the last group would be most closely allied to possible hypochondria.

<sup>18</sup> This might tend to make lip activity more pleasurable as in thumb-sucking, and would have to be considered with the latter, in genesis or reinforcement of an erogenic zone. See Freud, *Three Contributions to the Theory of Sex*, p. 44, Transl. Brill, Nervous & Mental Disease Publishing Co., New York, 1925.

that would obviously be singled out by children and have added significance for girls because of the present mode of dress.

Cases Nos. 14 and 18 (Table V) suggest the possibility of deriving from a specific point of sensitivity a "key" attribute for others; for example, from sensitivity to tallness, various body parts may be thought to be too long. In case No. 14, the body, head, ears, thumbs, are all too large or too long. In case No. 18, likewise, dimensions are too large for body, ears, lips, mouth, chin, shoulders, toes, feet."

#### RESPONSE TO GROWTH.

These responses were to the questions: "Would you like to be all grown up? Would you like to have hair on your body like this (showing a moderately hairy hand)? Would you like to have hair on your face? Would you like to get married some day? Would you like to have a baby (to girls)?"

Table VI summarizes what replies our patients gave to these questions, with an adjoining column of their probable relationship to other case data.

"McHale, Kathryn; Comparative Psychology and Hygiene of the Overweight Child, New York City, Bureau of Publications, Teachers College, Columbia University, 1926. She found through the use of various psychological tests and questionnaires, some interesting differences in obese and underweight children from the normal. Three groups of one hundred 11-year-old children, respectively, were studied. The overweight seemed to have a greater tendency to fears and worries; the overweight and underweight girls, to be unhappier than the rest. The underweight seemed to show more physical symptoms in the form of fatigue and pains. The overweight group appeared to be more conscious of their condition, and showed more willingness to take treatment than the underweight. It is interesting that of the reasons given for a wish to be normal in weight, the largest portion for the obese was because of health and play, the smaller percentage because of nicknames and appearance; so with the underweight boys. The underweight girls are about evenly divided. This is of interest in regard to the difference in method of collecting data. Not one of the obese children in our series gave any indication that a desire for change was due to anything but sensitivity to appearance. One wonders if under the formal process of checking one of a series of replies, the tendency would not always be in favor of the reply that would seem most proper or intelligent; *i. e.*, the answer is what they think they ought to or are expected to give.

By the use of an association test devised by the author, significant stimulus words for the obese and underweight were "eat, thin, nickname, nervous and embarrassed." In general, intellectual, social and play interests of all groups were the same.



TABLE VI.

Case No.	Response to growth and maturity.	Probable sources.
1. Male. Age 9.	He wants to stay his age. He does not want to grow up.	Consistent with infantile rôle in family, failure in competition with brothers, and complaints presented—infantile behavior.
3. Male. Age 7.	He does not want to get old, "not so old so I could have whiskers." He does not want hair on his body.	Consistent with loss of work and praise as photographer's model (curly haired boy) with growth, strong evidence of effeminacy, overprotection.
5. Male. Age 14.	He does not want to grow up because grown-ups get "hunched back." "If you marry, you can't play any more."	Consistent with failure in competition with brothers, infantilization by mother, threat of expulsion from home if not earning money by age 16.
6. Male. Age 13.	"I don't want to grow up. I'd rather be like I am now. You can't get no fun out of life when you grow up. You get old and get rheumatism." He will never marry: "It's tough luck to get married—tough luck for the men. Women are money pickers, gold pickers." He will shave off his hair, "there (pubis) or anywhere else." He has a razor scar on his hand from attempting to shave at 5. His oldest brother is "half-witted and hairy."	Consistent with marked racial sensitivity in a negro, favored in his family because he is white in color, with the fear of kinky hair that might reveal his origin, and hence, fear of growth; and the complaint of antagonistic reaction to authority, as part of his particular racial problem; with his fear of adult responsibility as a negro; with his exposure to the marital difficulties of the parents.
7. Female. Age 9.	She wishes she were grown up "because then you can have prettier clothes and don't have to go to school." After replying "No" she said she would like to be married but never to have a baby.	Consistent with her experience of poverty, school retardation, her malingering illness to stay home from school. Response to marriage may be related to her experience with father in terms only of good times; with mother and sisters, in terms of discipline and hard work.

TABLE VI.—Continued.

Case No.	Response to growth and maturity.	Probable sources.
8. Male. Age 12.	He would like to grow up and be strong. "I would like to be strong, with lots of hair."	Inconsistent with complaint of irresponsible behavior; consistent with delinquencies and gang experience in which strength and toughness are especially fostered.
10. Female. Age 10.	"I don't want to get married, but I want a baby, but don't have to get married." "I want a baby with curly hair like this (demonstrates)."	Consistent with sensitivity to straight hair, with loneliness, probably with mother's attitude toward men, her own bashfulness with boys, and with typical girl's wish for babies.
11. Male. Age 9.	He would like to grow up, but he would not like hair.	Assumed to be a typical response. Consistent with special stress on fighting and strength by parents, and patient's boasting about it. Resistance to body hair, also probably typical at this age.
12. Male. Age 10.	He would like to be big and have hair on his arms.	Inconsistent with overprotection; consistent with wish to be taller, with school retardation, emulation of the father, desire for further sex contrast since he has four older sisters all more successful in school than he; and with typical wish for growth.
13. Male. Age 13.	Response to growth not recorded. He resents hair on his face when he grows up, but doesn't care about it on the legs. He doesn't ever care to shave.	Rejection of facial hair and of shaving at this age is assumed to be atypical. Of interest as a feminine reaction in view of his "feminine" adiposity, female pubic hair distribution, sensitivity to breasts, obesity.
14. Male. Age 10.	He wants to grow up to be 19 or 20 and stay there. "Then you can go out to parties and you have a good time."	Consistent with complaint of irresponsibility, school difficulty, and probably with a wish to get rid of discipline of childhood.

TABLE VI.—*Continued.*

Case No.	Response to growth and maturity.	Probable sources
15. Male. Age 10.	He wants to grow up to be a man. He would like hair on his face but not on his body.	Inconsistent with overprotection and complaint of infantile behavior; consistent with school difficulty, overdisciplinary father, and much contact with boys.
17. Female. Age 11.	She would rather grow up "Oh, everybody does. I don't wish I were grown up, I would rather grow up gradually like everybody else. I would rather live my life."	Consistent with full feeling of protection and satisfaction with present arrangement in which she is totally dependent on her brother; and lack of companions.
18. Female. Age 12.	She wants to be a girl and remain at her present age so she can play. She would like to be married, but not to have children.	Consistent with infantilizing by mother, lack of companions, rejection of female anatomy (rejection of children); wish for marriage is inconsistent with latter response.
19. Male. Age 5.	He does not want to grow up, he does not want to be big, he does not want to have hair. He wants to be a boy and play.	To wish to be a "big man" is considered typical for boys of this age. Possibly related to his experience of grown-ups (the parents) as quarreling and fighting.
20. Male. Age 8.	He would like to grow up and make money. He would like to have hair on his body but only light hair. He will shave himself. He will never get married. "No, never. Mother don't want me to get married. I will run off and nobody will support her. She's afraid I'll run away so she makes me afraid of getting married."	Inconsistent with complaints of infantile behavior and history of overprotection. Consistent with wish to shoot the father, training in importance of making money, of protecting his "three female charges" and of failure of marriage.

One is impressed by the frequency in this small group of the wish to remain a child and not to grow up (seven instances). Ordinarily one anticipates indifferent responses by children to questions of marriage, but a universal desire to grow up. When we search our data for an explanation of the "rejection" of growth by seven children of one group (one of them, No. 14, a "partial rejection") we find it in the form of fear of adult life through failure of competition within the family (cases Nos. 1, 5, ), fear of adult responsibility (case No. 6), experience of parent grown-ups as unhappy, fighting, quarreling (case No. 19), probably also as sick (cases Nos. 5, 6); or an overly cherished childhood with overdependency between parent and child (cases Nos. 3, 18) or both (cases Nos. 1, 5, 6). We would expect that a fear of the future would strengthen the child's tendency to remain in infantile attachment, each reenforcing the other.

The typical wish to grow up, to be big, is developed in children through training, emulation of or rivalry with parents, competition among siblings and companions. All the experiences of childhood give tremendous value to maturity. Children are repeatedly challenged for modification of behavior by parents and teachers with such remarks as "A big boy doesn't do that," "You don't want to be a baby," "You're not acting grown up," etc. Sensitivity to body variations in boys are largely in terms of bigness, a social value that emphasizes the desirability of growth. Boys that have an active social life with their own companions would value growth and virility especially highly.<sup>18</sup>

With girls likewise, tremendous value is given to growth, recognition by an older girl as with boys is a compliment; likewise, to be considered grown up. Playmates have much greater effect instilling and strengthening such values than parent or teacher. These values engendered by the child's own group, it is worth emphasizing, are in terms of growth and independence. In that sense they are correctives of parent-child dependencies. In delinquent gangs evaluation of strength, toughness, independence (hence of growth and maturity) are extreme, and represent probably the strongest factor in intensifying rebellion against authority.

<sup>18</sup> In nursery schools also one readily observes the modifying effect of such a challenge through the group, after the same challenge has failed at home.

It appears logical, therefore, that lack of companions is noted in five of the seven children who want to stay their age (cases Nos. 1, 3, 6, 14, 18), a factor also related to overprotection operating through active prevention of companionship, or, more frequently, through the development of traits that make adaptation to the group difficult.

For explanation of the wish to grow up there must be added to the typical, reasons individual to our patients. Poverty (case No. 7), school difficulty (cases Nos. 7, 12, 15), severe discipline (case No. 15), in general, all experience that makes childhood irksome, unhappy or difficult, and for which adulthood is regarded as an escape or solution, must intensify the wish for maturity. Sensitivity to shortness is an added factor probably in case No. 12. To outdo the father as a reason for growing up is a factor apparent in case No. 20, where we have an expressed threat to shoot the father, consistent with a wish to grow up in spite of overprotection and infantile behavior.<sup>18</sup>

There are numerous instances in which children want to play adult rôles prematurely for the protection and support of parents, especially in broken homes or where the father is inadequate.

In children's wishes to grow up we may find, therefore, a desire to escape unhappy childhood or the wish to solve problems requiring immediate maturity for reasons of family devotion, protection, rivalry, revenge. To wish to grow up "gradually," "not too soon" and "live one's life" as expressed by an 11-year-old girl (case No. 17), sounds theoretically a healthy reaction, not expressing an excessive zeal for maturity or childhood.

#### MARRIAGE AND BABIES.

Rejection of marriage in some of our patients is apparently part of the rejection of maturity, hence part of the fear of adulthood (*e. g.*, cases Nos. 5, 6) or the overvaluation of childhood or both. Girls' wish for marriage without babies may also carry the same implication, to have the "good times" of marriage, to be free from the discipline of childhood, yet not to have the responsibility of marriage, as based on the child's experience. So when the child

<sup>18</sup> So also with boys exposed to quarreling parents in which the father assaults the mother.

experiences special difficulties through poverty, harsh discipline, cruelty, school difficulty, etc., marriage, like adulthood, may be viewed similarly as a happy solution of unhappy childhood.

To want a baby but not marriage is a wish consistent with the little girl's play with dolls, with emulation of the mother, probably a typical response. Such a wish might be intensified by loneliness, lack of affection (*e. g.*, case No. 10).

We have two patients in which rejection of children (No. 18), also of marriage (No. 9), may be symptomatic of rejection of the female rôle, or hostility to males, or both.

Rejection of marriage on the basis of his mother's unwillingness to give him up is expressed with remarkable frankness by an 8-year-old boy (case No. 20). Such relationship with a daughter may be consciously attained by either parent for purpose of affection or support.

A girl of 11 (I. C. G. case No. 700, not in this series) rejects both marriage and babies, because she wants to stay home always with her mother.

#### RESPONSE TO GROWTH OF HAIR.

Questions to elicit response to hair growth were not included in the earlier cases. Of the responses in eight boys, rejection of hair on some part of the body was expressed by six. A few of these rejections are understood in terms of the data at hand. In case No. 6 it is probably related to fear of exposure of negro origin in negro boy of 13 who passes for white. This boy has a razor cut on the head from attempting to shave off hair at the age of 5 years. He threatens to shave off any body hair that appears, and associated hairiness with imbecility and monkeys. An older brother is feeble-minded and hairy. A 13-year-old white boy (case No. 13) doesn't ever want to shave and resents facial beard. At this age we anticipate in boys a wish to have facial hair, to shave, to have hair on the chest, etc., as in case No. 8—a desire strengthened by play with other boys. It is a point of sensitivity when facial or body hair is scanty in adolescence. In this 13-year-old, facial hair rejection is interesting in view of definite feminine characteristics. He is also fussy about his hair, uses hair grease and has changed the manner of combing it twice in the past year. Facial



beard is synonymous with growth as in its rejection by a 7-year-old who does not want to get "so old so I could have whiskers" (case No. 3).

The idea occurs that reaction to the hairiness of adolescence is similar to maturity, and would therefore have its source in parent-child and group attitudes, with similar modifications, as suggested by our patients. But our cases suggest that for boys not yet adolescent, rejection of facial or body hair would be more frequent than rejection of growth. The manner of expression in this regard is interesting. One boy accepts facial but rejects body hair (case No. 15), another will accept body hair providing it is light (case No. 20).

A number of questions are raised by these findings. Is there typically in boys a rejection of all hair, excepting hair of the head; to be followed by acceptance of facial beard; and later, in adolescence or pre-adolescence a wish for hair of face, trunk and limbs? What is the explanation of rejection of hair?

Hairiness may be an object of revulsion in many forms for both sexes and has tremendous psychologic significance, besides its rôle in maturity and sex differentiation. The response of girls to pubic hair was not investigated in this series.<sup>17</sup>

#### KNOWLEDGE OF SEX DIFFERENCE.

##### GENITALS.

In 15 patients of this series we have data on knowledge of sex differences in terms of breasts, pregnancy, genitals, birth and coitus. All these facts were known to five boys age 12 and over and to two girls age 11 and 13 respectively. Such knowledge was incomplete in the remaining five boys, all age 10 and under; and in the remaining three girls, age 7, 10 and 12 respectively.<sup>18</sup>

Differences of breasts were known to all.

One patient, a boy of 5, the youngest of the series, did not differentiate genitals, and, although he often saw his mother naked,

<sup>17</sup> In a recent series of 20 cases 5 boys, all age 12 and under, rejected hair. They could give no reason. One boy added as an afterthought, it makes you look like a bear. One said he wanted to shave but not to have hair. Another wouldn't mind if the body hair was light.

<sup>18</sup> Case No. 10 is doubtful.

thought all females possess a hairy penis. Apparently his mother took for granted his knowledge of difference in genitals and told him the story of birth and coitus. Out of it and his "own" experience, he reconstructed a theory that the father put an "egg" in the mother's stomach where it stayed a year and came out through her penis "so small" (indicating with his fingers).<sup>19, 20</sup>

A boy, age 9½ (C. G. No. 992, not in this series), frequently exposed to the nakedness of mother and baby girls was, as in the previous boy, convinced by his own observations. He said, "Mother has one penis like his own) but it is bigger. Babies have one but it's further, somewhere in the legs. It is there but you can't see it. I saw it, it's not in the same place."

Both boys observed sex differences in urinating which the 5-year-old attributed to nakedness; the 9-year-old to a difference in position of the organ.

On the other hand, observation of the brother's penis by a girl, age 7, at the time of her account (described under comment to case No. 19) led her to conclude that she had had one but her brother stole it from her. Such direct responses of female children have been frequently observed since Freud's original contributions.<sup>21</sup>

<sup>19</sup> This fallacy, a very frequent observation in male children, since Freud first made reference to it, is explained by him as a refusal on the part of the child to believe that anyone can be deprived of so valuable an organ. Without attributing to the child's stress on the value of the organ as his reason for refusing to see what isn't there, it might be simpler to explain the fallacy on the basis of the generalizing tendency of the child in terms of his limited experience (for which some examples will follow). (See also footnote 21.)

<sup>20</sup> On this point see Piaget, J.: "Judgment and reasoning in the child," p. 216 Sec. 33. New York, Harcourt Brace & Company, 1928; Freud, S. Collected Papers, Vol. II, p. 65. "The first of these theories begins with a neglect of sex differentiation, the neglect to which we called special attention . . . as being characteristic of children. It consists in attributing to everybody, including women, a penis just like the one the boy knows of from his own body."

<sup>21</sup> On the theory of libido-investment of the genitals the female child on exposure to the organ should not see what is there, just as the male sees what isn't there. But this is not true. Apparently absence of an object is a more difficult concept for the possessor than for the "unpossessed." In mental tests designation of the missing parts of a picture (mental age 6 years) is a much more advanced test than designation of the same parts when present (mental age 3 years).

In the case of G, a boy of  $7\frac{1}{2}$  years (case No. 3), genital differences (*i. e.*, that females have an aperture instead of a penis) were known by exposure to the nakedness of aunt and mother, but with the generalization that girls have also "long hairs" (as also in case No. 19).

Knowledge of the female genital was acquired not by observation but through conversation with boys in cases Nos. 4, 8, 11, and 12, who described it as a "sandwich," "a circle with the stem off," "a straight line," "a circle with a slit in the middle."

#### NAVEL.

Questions about the navel were asked of the children in this group. Four had no idea of its function. A boy (case No. 18) thought it was a birth passage. In a more recent series of 20 children, of about the same age distribution as series I, only one child had the idea that it was connected in some way with the unborn child (the scar of an "air tube"). Where a name was given it was usually "belly button." Several children were instructed about its function, one by a physician.

#### SCROTUM.

Two boys (Nos. 3 and 19) thought of it as a box for water, a conception probably derived from the water-closet. In a recent series this concept has been repeated several times. Function of testes was not asked though a boy of seven (case No. 3) said they were "eggs to let the water out." One boy called the testes "nipples," an interesting observation not further investigated.

#### PREGNANCY—BIRTH—COITUS.

Five children in our series were apparently ignorant of facts about pregnancy; at least six, of birth; eight, of coitus. Although a chance distribution in a small group the frequencies appear logically related to opportunities for observation and the usual methods of sex instruction. They are more likely to be told about pregnancy than birth, and least likely to be told about coitus. Likewise on the basis of their own experience in retaining objects within their bodies that are expelled, as in the bladder and bowel activity, they

might more likely understand pregnancy and birth, though not coitus.<sup>22, 23</sup>

#### BIRTH.

The navel is a scar out of which the baby comes (male 13, case No. 18); "the baby is in the mother's stomach, and the belly opens up" (male nine, case No. 11); they are born "in the stomach" (female 11, case No. 17); they come out of an opening in the abdomen (male 12, case No. 18); they come out of a female penis (male five, case No. 19).<sup>24</sup>

Of the false theories of birth in this group, navel, Cæsarean, and urinary, we may add from a recent series of children, rectal, oral, and breast. Though two children in series I said the doctor made them in a machine, and one that God "borned them," all knew that "only mother" had them.<sup>25</sup>

Several were told and rejected the stork story.

The sexual theories proposed by our patients add nothing to those already reported in psychoanalytic literature. The unabashed expression of these theories under the conditions enumerated leads one to infer that they present true conceptions at least at the time of study. When incorrect and incomplete, they are likely to present a theory (or one of several theories) held earlier in life. When an "absurd" theory is not a repetition of the story of the stork or some other adult invention, it is more readily understood as an elaboration out of limited experience with infantile logic. It may represent therefore the child's own earliest conceptions of man's origin.<sup>26</sup>

<sup>22</sup> Freud, S.: Three contributions to the theory of sex. p. 58 ". . . infantile sexual theories are reproductions of the child's own sexual constitution."

<sup>23</sup> By "knowledge" of pregnancy we mean merely knowledge that the child before birth is in the body of the mother; of birth, that the child comes out of a special passage; of coitus, that pregnancy is started by joining of sex parts. A child may know about coitus without relating it to pregnancy.

<sup>24</sup> To children, the stomach often means abdomen.

<sup>25</sup> One boy (not of this series) said that the father paid for the baby but the mother got it. Hospital confinements are likely to complicate matters for the inquiring child.

<sup>26</sup> In regard to such theories we should be mindful of Piaget's warning—"we have no proof that childish beliefs held in solitude are the same as those which appear in his intercourse with adults." *Judgment and Reasoning in the Child*, previously cited, p. 205.

## EXPOSURE TO SCENES OF SEX ACTIVITY.

A boy, age 14 (case No. 5) accidentally observed his parents having sex relations. A few weeks before our examination he observed another act of coitus in a lot near his home. He also saw a boy masturbate in the classroom.

A boy of 13 (case No. 6) knows that (witnessed?) his older brother had rectal intercourse with the younger. He said, "I would kill a guy who would do that to me."

A boy of 12 (case No. 8) observed an adult masturbating unconcealed, also mutual masturbation among boys.

A boy of five (case No. 19) recited spontaneously the story of his parents in coitus which he observed accidentally. "The father lies on top of the mother and hits her. . . . He kicks her in the pants. I would like to kill him, but I don't have a gun. I tried to kill him. I gave him a good hard hit on the hand, but he did not die."

These examples from a group of children not selected because of sexual difficulties illustrate the high frequency of such experiences. They confirm the general observations of workers in the field.

The interpretation of coitus of parents as an act in which the father beats the mother, as, in fact, the only logical conclusion possible for the child (in this case even after sex education) was first recorded by Freud. Such an interpretation by our patient was probably reinforced by exposure to parental quarrels as in a case reported by Karl Abraham in 1913.<sup>27</sup>

## SEX ACTIVITY.

Eight of our fourteen boys admit masturbation, two also mutual masturbation, another rectal intercourse (or a tergo) (cases Nos. 1, 2, 11, 13, 14, 15, 19, 20). The frequency of masturbation is too well known to require comment. Of interest is its frequency in this group of boys all age 14 and younger, and the yield of this information, usually resisted, in the brief period of study. Masturbation with a washing-ritual is described in case No. 20.

<sup>27</sup> Selected papers on Psychoanalysis. Previously cited. Chap. VIII. Mental after-effects produced in a 9-year-old child by the observation of sexual intercourse between its parents.

might more likely understand pregnancy and birth, though not coitus.<sup>22, 23</sup>

#### BIRTH.

The navel is a scar out of which the baby comes (male 13, case No. 18) ; "the baby is in the mother's stomach, and the belly opens up" (male nine, case No. 11) ; they are born "in the stomach" (female 11, case No. 17) ; they come out of an opening in the abdomen (male 12, case No. 18) ; they come out of a female penis (male five, case No. 19).<sup>24</sup>

Of the false theories of birth in this group, navel, Cæsarean, and urinary, we may add from a recent series of children, rectal, oral, and breast. Though two children in series I said the doctor made them in a machine, and one that God "borned them," all knew that "only mother" had them.<sup>25</sup>

Several were told and rejected the stork story.

The sexual theories proposed by our patients add nothing to those already reported in psychoanalytic literature. The unabashed expression of these theories under the conditions enumerated leads one to infer that they present true conceptions at least at the time of study. When incorrect and incomplete, they are likely to present a theory (or one of several theories) held earlier in life. When an "absurd" theory is not a repetition of the story of the stork or some other adult invention, it is more readily understood as an elaboration out of limited experience with infantile logic. It may represent therefore the child's own earliest conceptions of man's origin.<sup>26</sup>

<sup>22</sup> Freud, S.: Three contributions to the theory of sex. p. 58 ". . . infantile sexual theories are reproductions of the child's own sexual constitution."

<sup>23</sup> By "knowledge" of pregnancy we mean merely knowledge that the child before birth is in the body of the mother; of birth, that the child comes out of a special passage; of coitus, that pregnancy is started by joining of sex parts. A child may know about coitus without relating it to pregnancy.

<sup>24</sup> To children, the stomach often means abdomen.

<sup>25</sup> One boy (not of this series) said that the father paid for the baby but the mother got it. Hospital confinements are likely to complicate matters for the inquiring child.

<sup>26</sup> In regard to such theories we should be mindful of Piaget's warning—"we have no proof that childish beliefs held in solitude are the same as those which appear in his intercourse with adults." *Judgment and Reasoning in the Child*, previously cited, p. 205.



## EXPOSURE TO SCENES OF SEX ACTIVITY.

A boy, age 14 (case No. 5) accidentally observed his parents having sex relations. A few weeks before our examination he observed another act of coitus in a lot near his home. He also saw a boy masturbate in the classroom.

A boy of 13 (case No. 6) knows that (witnessed?) his older brother had rectal intercourse with the younger. He said, "I would kill a guy who would do that to me."

A boy of 12 (case No. 8) observed an adult masturbating unconcealed, also mutual masturbation among boys.

A boy of five (case No. 19) recited spontaneously the story of his parents in coitus which he observed accidentally. "The father lies on top of the mother and hits her. . . . He kicks her in the pants. I would like to kill him, but I don't have a gun. I tried to kill him. I gave him a good hard hit on the hand, but he did not die."

These examples from a group of children not selected because of sexual difficulties illustrate the high frequency of such experiences. They confirm the general observations of workers in the field.

The interpretation of coitus of parents as an act in which the father beats the mother, as, in fact, the only logical conclusion possible for the child (in this case even after sex education) was first recorded by Freud. Such an interpretation by our patient was probably reinforced by exposure to parental quarrels as in a case reported by Karl Abraham in 1913.<sup>27</sup>

## SEX ACTIVITY.

Eight of our fourteen boys admit masturbation, two also mutual masturbation, another rectal intercourse (or a tergo) (cases Nos. 1, 2, 11, 13, 14, 15, 19, 20). The frequency of masturbation is too well known to require comment. Of interest is its frequency in this group of boys all age 14 and younger, and the yield of this information, usually resisted, in the brief period of study. Masturbation with a washing-ritual is described in case No. 20.

<sup>27</sup> Selected papers on Psychoanalysis. Previously cited. Chap. VIII. Mental after-effects produced in a 9-year-old child by the observation of sexual intercourse between its parents.

EFFECT OF KNOWLEDGE ABOUT SEX AND SEX ACTIVITY  
ON PERSONALITY.

The effect of diverse experiences and knowledge of sex on the personality of child and adult has been learned chiefly through psychoanalytic investigation of adults. Freud regards the sexual investigation of early childhood, when its inquiries are blocked, as a first step in "independent orientation in the world" and its deception by the parents as a cause of estrangement and loss of confidence in them.<sup>28</sup> Freud attributes to the child's adherence to the belief in a female penis a part in the formation of perversions.

Abraham found in male neurotics who held this belief, the fear that they had an abnormally small organ.

Adler has given much weight to uncertainty concerning sex differences. He regards it an important cause of neuroses and psychoses.<sup>29</sup>

Exposure to sexual scenes and active sexual experience in the form of masturbation, mutual masturbation, seduction, trauma to genitals, and the like are very direct in their implications and of obvious significance in the life of the individual. Guilt feelings,

<sup>28</sup> Freud, S.: Three contributions to the theory of sex. Previously cited p. 58. In his famous case of 5-year-old Hans—Collected Papers, Vol. II, p. 248 ff.—an interest in investigation and differentiation of animate and inanimate objects (through presence or absence of genital) was related to interest in his penis; his confusion of the sexes, to knowledge of only one kind of genital; phantasy that his mother showed him her penis and castration fear, to information that the mother has no penis; sleeping with his mother, occasional absence of the father, probably also separation from the mother at time of her childbirth, to a strong, frank Edipus conflict. Indeed the inference is strong that timely information about sex differences and coitus would have helped considerably in preventing Hans' phobia.

<sup>29</sup> Abraham, Karl: Selected Paper on Psychoanalysis, previously cited p. 336. "Neurotic men who are found on analysis to have retained the idea of the large female penis regularly suffer from the fear that they themselves have an abnormally small organ."

Freud, S.: Three contributions to the theory of sex, previously cited p. 56. "This conviction (of female penis) is energetically adhered to by the boy and tenaciously defended against the contradictions which soon result, and only given up after severe internal struggles (castration complex). The substitutive formation of this lost penis of the woman plays a great part in the formation of many perversions."

Adler, A.: Neurotic constitution: New York; Dodd, Mead & Company, 1926.

fears, ideas of difference, of persecution, of self-derogation, and social isolation, even psychotic symptoms, have been studied especially in reference to masturbation. But the response of the individual to direct sex experience of the type mentioned depends on previous experience and training much more than on specific sex acts. Masturbation, for example, is usually a pleasurable physical act, psychologically neutral, excepting in terms of previously formed attitudes.<sup>30</sup> The direct aim in treatment, therefore, when masturbation becomes a special problem, is to minimize the importance of the act and relieve feelings of guilt.

Also direct in their implications, yet more significant in shaping personality are the earliest experiences relating to sex. These have to do chiefly with curiosity about sex difference, interest in genitals and nakedness, inquiries about birth, various generalizations made on the basis of inadequate knowledge; and the various modifications of the child's behavior along these lines. It is difficult however, to follow the influence of such activities forward as the child develops. We are able for example to demonstrate the relation of excessive curiosity to strong taboos against nakedness,<sup>31</sup> yet unable to show the spread of this curiosity in a general educational sense, or its relation to such traits as initiative and enterprise. Likewise in one of our patients<sup>32</sup> excessive questioning about the origins of all things was related to incomplete sex information, and stopped when the fact of birth was explained. It is difficult however, to study the relation of this questioning propensity to adult philosophic attitudes and the like. For such investigations we are still dependent on the retrospective accounts of adults in the psychoanalytic situation.

Certain inferences proceed directly from our studies that may be of interest. Exposure of the child to the nakedness of parents

<sup>30</sup> For guilt feeling over masturbation in the form of a washing-ritual see case No. 20.

<sup>31</sup> *E. g.*, A girl age 7 (I. C. G. No. —) referred because of "attacks of sudden fright." She has been warned against being in the same room with her father when he is undressing and against seeing the younger brother naked. She has put on bloomers beneath her nightdress so as not to feel naked. In playing with a doll during the office interview she makes it "act naughty" by having it peek into all the desk-drawers and sectional bookcases which she opens.

<sup>32</sup> A boy age 5 (I. C. G. No. 695) referred for stammering.

alone might conceivably lead to more difficulty in mature sex adaptation than exposure to the nakedness of children. We may infer from these studies that very early knowledge of sex difference is necessary to prevent false generalizations by the child; knowledge of birth and coitus, likewise, to prevent early distortions of experience and vulgarization of sex by companions, besides, as Freud indicates, loss of faith in parents. (Note the remark of a ten-year-old boy, case No. 15, whose false information from parents was corrected by companions; "that is what men and ladies do to get a baby and then they say they buy it.")

Training to be on guard against the aggressive male helped to create hostile aggressive attitude towards boys, probably excessive sex interest, in two of our female patients, and homosexual leanings.<sup>33</sup>

Strong evidence of effeminacy was revealed in a boy who lived only with females. He spent much time posing before a mirror, phantasied and had night dreams of changing into a girl (case No. 3). Likewise all conditions intensifying female influence (absence or weakness of father, overprotection by mother, lack of companionship) may probably have similar value (see case No. 4).

In case No. 6, a boy age 12 saw his older brother have sexual activity with the younger. Since he regarded the older brother as a bully, and "half-witted and hairy," his attitude to the act itself was colored by his attitude to the brother. Hence, "I would kill a guy who would do that to me." So also may the nine-year-old boy (case No. 1), whose genitalia were hurt by an older one regard sex activity as brow-beating of an older by a younger.

Through these instances it may be clear how the attitude toward sex activity may be derived from attitudes toward people who first

<sup>33</sup> A girl of 13 (case No. 9) referred because of poor school discipline and homosexual tendencies. The girl, it may be added, had several nightmares in which whenever touched by a book she had to read it through. The constant warning of the mother to beware of boys, since they always try to touch the genitals of girls, was associated with her fear. See case record.

The second, a girl of 12 (case No. 18), referred because (unlike the preceding girl) she is "overinhibited," *i. e.*, doesn't mix with the others. She had a frank penis-envy, wished to change her anatomy to male and have a male organ. Strong inhibitions against seeing her own nakedness, against listening to anything about sex, and against all boys.

reveal the act, besides the particular details and setting of the act itself; and, the previous experiences of the individual.<sup>24</sup>

#### SUMMARY.

By taking advantage of rapport established in the physical examination of children, an interview was developed to follow that procedure, which incorporated phases of the psychiatric study that dealt with the child's verbal response to his own body. This interview was elaborated in a series of twenty children to include four groups of responses: (1) to anatomic variations; (2) height, weight, strength and appearance; (3) body growth and maturity; (4) knowledge of sex difference, and sex activity. The group studied included fourteen boys and six girls ages ranging from five to fifteen years, intelligence ranging from dull to very superior, referred to the Institute because of various educational and generally mild "behavior problems."

The findings were summarized in a series of tables, studied in relation to other data made available by social investigation, family history, intelligence, educational tests, and physical findings; and related to other clinical cases and contributions from the literature.

Although presenting no evidence of gross deformity or disease, the twenty children studied yielded eighty responses indicating special interest in or sensitivity to some body part. On the basis of the type and number of such responses, the part of the body selected, and correspondence with physical findings, a selection was made of children having excessive body interest.

The various factors suggested by our cases in explanation of excessive interest in body parts form (or function) were in relation to parental oversolicitude, history of illness and injury, exposure to sick people and talk about sickness, body variations significant to the patient because they were in special contrast in his group, or had special group values, or because of special experience.

Because of its importance in explaining excessive body interest, typical conditions tending to create parental oversolicitude (over-protection) were investigated and found to be as follows: I. Con-

<sup>24</sup> For a most exhaustive study of reactions in childhood to a series of incidents, in which almost every form of sex trauma happened to one patient, see "From the history of an infantile neurosis," in Freud's *Collected Papers*, Vol. II, p. 473 ff.

ditions narrowing the emotional life of the mother because of marital conflict, or death of the father, difficulty with family or relatives, lack of contact with neighbors, absence of secondary interest; in general, restriction of social and sexual satisfactions. 2. Conditions in which children were made to solve conflicts or unsatisfied ambitions of the parents. 3. Parents ignorant or immature, vacillating between marked overprotection and neglect. 4. Conditions in the child intensifying protective attitudes through death or lack of other siblings; special hazards of accident and disease, weakness, deformity, inability to adapt to other children; and a series of events in the form of miscarriage and still births causing a prolonged and intensive period of maternal anticipation. 5. Lack of modifying influence of the child's behavior through absence of or "negative" paternal rôle, or play life with other children, allowing prolongation of infantile traits.

Response to crooked teeth was found especially significant because of masked movements used to conceal them, including narrowing of the smile and limitation of lip excursion in conversation; hence, an effect on spontaneity of speech and behavior.

There was a close correspondence in our group of special response to the skull, or scars of the skull and excessive body interest. It was attributed to psychologic reaction of parents to the child's head injury or operation.

Of all parts of the body the visible mouth area was most productive of "sensitivity." Eyes and hair also received frequent responses. Breast and genital responses were relatively much more numerous in boys than in girls, in keeping with more frequent exposure to nakedness among males, and the age of the group. Variations in body form or function in frequent derogatory contrast among boys were thought to be shortness, weakness, thinness, small penis; in girls, facies, hair, obesity, tallness. In general, sensitivity among boys was related to competition in terms of strength and size; among girls, to competition in terms of physical attractiveness.

In certain cases it was shown how sensitivity to a body finding may draw special attention to that finding in others; how sensitivity to a secondary sex trait may create doubts about sex identity; how masturbation-threats in boys, training of sex prudery in girls, may involve excessive interest in the genitals, in the body, and in sex; how a general self-derogatory attitude may involve body parts;



how one "point of sensitivity," may spread to other parts; and how lack of reassurance by the parents may prevent the child from awareness of "good points."

The wish to remain a child and not grow up was expressed by seven of the twenty children studied. In these cases there was evidence of a fear of the future, or an overly cherished childhood with parent-child overdependency, or both. This overdependency could not be corrected by group play in five of the seven because of lack of companions.

In the others the wish to grow up was probably reenforced by unhappy conditions in childhood (poverty, school difficulty, severe discipline) and the wish to solve problems requiring immediate maturity for reasons of family devotion, protection, rivalry, revenge.

The wish for marriage or its rejection was apparently influenced by a number of the same considerations as for growth and maturity. The usual wish of a girl for a baby was probably intensified in one of our cases by loneliness and lack of affection. The rejection of children by two girls was partly due to their rejection of the female rôle. A frank rejection of marriage was explained by one of the patients as the design of his mother, who needed him for support, and taught him to be afraid of marriage.

A number of boys under age twelve rejected the idea of body hair, one "accepted" only facial hair, another body hair if "light." A study of other cases indicated that revulsion of hair is a frequent finding in our preadolescents.

In the study of knowledge of sex differences, instances were found of the fallacy in boys of attributing a male penis to the female even after observing their naked forms; of generalizing from exposure to the mother that the sex organs of all girls are hairy; of a theory by a girl on sight of her brother's penis, that he had stolen hers and that all men similarly are thieves.

Of the children questioned none had correct notions about the navel. In two instances the scrotum was thought to be a box for water, an idea probably derived from the water closet.

In logical relation with opportunities for observation, usual methods of sex instruction, and knowledge of body processes, more children were ignorant of coitus than of birth; more were ignorant of birth than of pregnancy. False theories of birth included navel, Cæsarean, urinary, rectal, oral and breast. None believed the stork theory.

Exposures to scenes of sex activity of parents and other adults were frequent, in keeping with general observations in this field. The response of children to these scenes, as to sex difference and sex theories, is confirmatory of psychoanalytic findings.

The practice of masturbation was reported by eight of fourteen boys, median age of ten.

The effect of knowledge about sex and sex activity on personality is a problem difficult to demonstrate by direct study although in some cases it was shown that excessive curiosity was found closely related to taboos against nakedness, and excessive questioning about the origin of all things to incomplete sex information. It was inferred that exposure to the nakedness of parents might cause more difficulty in mature sex adaptation than exposure to the nakedness of children; that very early knowledge of sex difference is necessary to prevent false generalizations; that early knowledge of sex processes is necessary to prevent distortions of fact and their later vulgarization; that training of girls to be constantly aware of aggressive sex tendencies in the male may help create excessive sex interest and homosexual tendencies; that the child's attitude toward sex activity is derived from the details and setting of the act, from his attitude towards the people who first reveal it, besides his previous experience.\*

\* For various examinations—social, physical, psychometric, and psychiatric, without which this investigation could not have been made, the writer is deeply indebted to the staff of the Institute for Child Guidance; and, for criticism of the manuscript, to its director, Dr. Lawson G. Lowrey.

## COMPARISON OF KAHN AND WASSERMANN TESTS IN 684 MENTAL PATIENTS.\*

BY F. PROESCHER, M. D., AND A. S. ARKUSH, A. B.

The Kahn precipitation test for syphilis is undoubtedly the most reliable and rapid one so far devised for the serological diagnosis of this disease. Since Kahn's first description in 1906, numerous publications have appeared, which are quite in agreement in announcing the superiority of the flocculation tests over the original or modified complement fixation reactions. We have recently surveyed some of the statistics in these articles † and have summarized the totals. The methods and conditions obtaining among the authors are so variable that no great accuracy can be claimed for the figures here given. But these figures do indicate rather adequately the reliability of the tests under consideration, and we take the liberty to publish them as follows:

	No.	%
Total cases examined.....	375,575	100
Cases with complete agreement.....	351,373	93.6
Partial agreement or doubtful.....	18,909	5.0
Complete disagreement .....	5,293	1.4

We do not wish to enter into a discussion of the uses that should be made of these serological methods nor the question of whether both Kahn and Wassermann should be used together in each case. So much is certain that the relative simplicity and reliability of the Kahn test will find increasing favor among laboratory workers. It is economical of time, expense, reagents, and knowledge, unaffected by anticomplimentary serums, and effective with micro-quantities. Reliability with blood and spinal fluid is equal and reports to the contrary can only be due to faulty technique.

The many reports referred to above are based almost entirely upon examinations of the public at large or from very hetero-

\* From the pathological laboratory, Agnew State Hospital.

† These statistics are found in the Journal of the American Medical Association from December 18, 1926, to September 1, 1927, the Journal of Laboratory and Clinical Medicine for August, 1927, and the present article.

geneous clientele. It may occur to some that in special diseases where nervous, glandular, metabolic or other pathological conditions exist, unspecific reactions may appear. Literature is scanty upon this question. We feel that we are in a position to say that such is rarely true for the psychoses of insanity, but some peculiarities have been noted.

Since January 6, 1926, we have applied the modified Kahn and Wassermann tests in parallel in 684 consecutively admitted cases. Our syphilitic material comes mainly under the diseases of paresis, cerebro-spinal syphilis and asymptomatic syphilis in non-syphilitic psychoses. From the table below it is evident that the last named do not interfere with the Kahn precipitation test. Nor do the non-syphilitic cases inhibit the contrary reaction. There is a close correlation with the Wassermann findings throughout.

In two cases of dementia precox, acute stage, we have observed positive Kahn tests with persistingly negative complement fixations and without clinical evidence of syphilis. After about one month each of these cases gave negative reactions with each test and without any treatment whatever. We may have here a false positive reaction due to an unknown change in the colloidal stability of the serums or a congenital syphilis, since false negatives in the latter condition are also observed.

Besides dementia precox, false indications were observed in two cases of alcoholism without clinical evidence of syphilis though here again the actual presence of this disease cannot be ruled out with absolute certainty. Both the Kahn and Wassermann reactions were positive upon commitment of the patients. Subsidence of the acute symptoms in each case brought negative results in both serologic tests. These cases were followed for several months without further positive findings. Neither the patients described here nor in the paragraph above enter into the table following.

All those cases giving three plus or four plus reactions are diagnosed as positive in this laboratory. All others are classed as negative.

Complete disagreement is noted in one case each of senile dementia, arteriosclerosis, manic depressive, involution psychosis, toxic psychosis, narcotic, and cerebro-spinal syphilis. In general paralysis there are 11 disagreements in 66 cases—a high percentage. The disagreement in the case of arteriosclerosis is in a

TABLE OF AGREEMENT FOR KAHN TESTS.

(Blood serums only.)

Psychosis.	Sex.	No. cases.	Agree.		Disagree.		Correlation %
			Pos.	Neg.	Pos.	Neg.	
Alcoholic .....	Male....	49	4	45	..	..	100
	Female..	10	..	10	..	..	100
Arteriosclerosis .....	Male....	21	..	20	1	..	95
	Female..	4	..	4	..	..	100
Cerebro-spinal syphilis .....	Male....	..	..	..	..	..	..
	Female..	3	2	..	..	..	67
Constitutional inferior .....	Male....	3	..	3	..	..	100
	Female..	6	..	6	..	..	100
Dementia precox .....	Male....	160	3	157	..	..	100
	Female..	59	2	57	..	..	100
Epilepsy .....	Male....	7	..	7	..	..	100
	Female..	4	..	4	..	..	100
Involution psychosis ....	Male....	15	2	12	1	..	93
	Female..	15	..	15	..	..	100
Manic depressive .....	Male....	50	1	48	..	1	98
	Female..	83	..	83	..	..	100
Miscellaneous * .....	Male....	13	..	13	..	..	100
	Female..	7	..	7	..	..	100
Narcotic .....	Male....	12	2	10	..	..	100
	Female..	4	..	3	1	..	75
Not diagnosed .....	Male....	2	..	2	..	..	100
	Female..	4	..	4	..	..	100
Paranoid state .....	Male....	4	..	4	..	..	100
	Female..	2	..	2	..	..	100
Psychoneurosis and traumatic psychosis .....	Male....	17	..	17	..	..	100
	Female..	1	..	1	..	..	100
Senile dementia .....	Male....	21	..	21	..	..	100
	Female..	34	..	33	..	1	97
Toxic psychosis .....	Male....	1	..	1	..	..	100
	Female..	7	..	6	1	..	86
General paralysis .....	Male....	54	45	..	6	3	83
	Female..	12	10	..	..	2	83
Total .....	Male....	429	57	360	8	4	97.2
	Female..	255	14	235	2	4	97.7
	M. & F..	684	71	595	10	8	97.4
Total omitting paresis...	Male....	375	12	360	2	1	99.2
	Female..	243	4	235	2	2	98.4
	M. & F..	618	16	595	4	3	98.9
Spinal fluids .....	M. & F..	73	15	55	1	2	95.9

\* Under this heading we include cases diagnosed as organic brain disease, not insane, mentally defective, encephalitis, hysteria and feeble-minded.

patient definitely known to have syphilis. In the cases of senile dementia, manic depressive, involution psychosis, toxic psychosis and narcotic the causes of the discrepancy are unknown.

In some treated cases the Kahn test remains positive longer than the complement fixation. The reverse has not been observed. The three discrepancies in spinal fluid tests noted in the table are all in treated cases (of paresis).

The lowest correlation indicated is in the case of female narcotics. The number of cases is of course too few in each and even all psychoses to lend any considerable value to the percentages listed but the indication of the reliability of the Kahn reaction is definite throughout. Disagreement in cases of paresis are very probably due to treatment received before entering the institution. In one case each of narcotic and toxic psychosis the precipitation test was strongly positive and complement fixation test negative upon admission. In each case the precipitation test became negative after four weeks without treatment. Neither history nor clinical symptoms pointed to syphilitic infection. In all probability the precipitation test gave a false positive for the complement fixation reaction with a highly sensitive cholesterin extract persistantly negative.

The few exceptional cases noted here may suggest to some that false serological reactions may occur with mental or nervous conditions which clear up without other treatment than some few weeks of rest. The question awaits more evidence. However this may be, we feel sure that the Kahn test is equally as satisfactory here as in other laboratories, with whose statistics our own compare quite favorably.



## Notes and Comment

---

THE ATLANTA MEETING OF THE AMERICAN PSYCHIATRIC ASSOCIATION.—The meeting of the Association in Atlanta was well attended, the program was one of varied and sustained interest and the papers as a rule were well discussed.

The arrangements for the comfort and entertainment of those in attendance were satisfactory and in short there was little if anything left to make the meeting a successful one in every aspect.

The address of the President Dr. Orton deserves careful reading on the part of every member.

He very wisely cautions against a too prevailing tendency in medicine to seize upon new theories, and unproven methods and to exploit them, to the neglect of painstaking, carefully directed and accurately recorded observation.

Like a philosopher of old he warns against the danger of giving over the picture of our own imagination as the pattern and form of real facts. His plea is for the consolidation of psychiatric study by a broad program of research.

Too often we have seen the results of what might otherwise have been valuable studies fail in any effective force because of the fact that they had not been correlated with the observations of others in related fields. One group have seen in focal infections the fountain of all or nearly all psychic disorders, while another finds in endocrine disorders elements which absorb all their attention. On the other hand there are those who would, in the etiological field, concentrate their attention upon the psychogenic factors in the problem.

Dr. Orton does not criticise any of these but he does urge the maintenance by psychiatrists of a broad and critical viewpoint. We might apply to his advice the words of the apostle "prove all things; hold fast that which is good."

Dr. Orton warns against the growing tendency to trespass upon psychiatric fields by untrained or badly trained psychologists social workers and others.

Psychologists have added much to our knowledge of mental processes and in conjunction with psychiatrists have made notable

contributions to the literature. For men of this type we have no criticism; but there are others, who make examinations, give advice and in short treat cases without any medical training with no clinical background of experience. Such men are dangerous. The same is true of those who give "courses in psychiatry" to lay students, of whom some at least will soon demonstrate that "a little learning is a dangerous thing"—that "shallow draughts intoxicate the brain."

Unless some definite standard for psychiatric teachers and practitioners can be established there is a real menace confronting the profession and the public.

In this connection one might inquire what action, if any, has been taken upon the suggestion made by Dr. Meyer in the conclusion of his address as President in 1928 as to the establishment of diplomas in mental medicine to be given after proper training and examination.

We suggest to our readers that after reading the address of Dr. Orton they re-read the address of Dr. Chapman as President of the Psychopathological Association, published in the JOURNAL for November, 1928.

THE FIRST INTERNATIONAL CONGRESS ON MENTAL HYGIENE. It is extremely fitting that the First International Congress on Mental Hygiene should be held here, in America, where the mental hygiene movement had its inception and where the work has been so well carried on under the auspices of the National Committee for Mental Hygiene.

As is already known, The American Psychiatric Associations holds its annual meeting in Washington at the same time and we are well assured that these two meetings will mark an epoch in American psychiatry.

The administrative headquarters of the Congress has sent out the following preliminary notice:

Progress is being made in the organization of The First International Congress on Mental Hygiene, to be held in Washington, D. C., May 5-10, 1930. Educators, psychiatrists, other physicians, public officials, social workers, industrialists and many others from all over the world are expected to be present when the Congress convenes.

Herbert C. Hoover has honored the Congress by accepting the position of honorary president. Already 26 countries are represented on the Committee on Organization, of which Dr. Arthur H. Ruggles, of Providence, R. I., is

chairman. Dr. William A. White, of Washington, D. C., is president of the Congress, and Clifford W. Beers is Secretary-General. The Congress is being sponsored by mental hygiene and related organizations in many countries.

Questions to be discussed at the Congress will include the relations of mental hygiene to law, to hospitals, to education, industry, social work, delinquency, parenthood and community problems. A world-wide view of mental hygiene progress will be given. The subject will be discussed also in specific application to the maladjustment problems of individuals, special attention being probably given to childhood, adolescence and later youth. It is the contention of those promoting the Congress that mental hygiene has to do with the conservation of mental health in general, not merely with nervous and mental diseases. The point of view of clinical diagnosis and treatment will be considered, as well as that of administration of institutions and agencies.

Basic expenses of the Congress are being underwritten by the recently organized American Foundation for Mental Hygiene. Opportunity will be afforded for acquaintance among delegates of the various countries, and translations, together with other conveniences, will facilitate comprehension of all that may be said in unfamiliar languages. Administrative headquarters have been opened at 370 Seventh Ave., New York City, where John R. Shillady, Administrative Secretary, is in charge. A membership fee of \$5 (including the Proceedings) has been fixed.

## Association and Hospital Notes and News.

---

NOTICE REGARDING PROGRAM FOR THE EIGHTY-SIXTH ANNUAL MEETING OF THE AMERICAN PSYCHIATRIC ASSOCIATION, WASHINGTON, D. C., MAY 5-9, 1930.—The following notice has been received from the Chairman of the Program Committee of the Association.

The JOURNAL heartily sympathizes with the desire of the committee to make the program for the next meeting "the best which American psychiatry can offer," and to this end we urge the hearty cooperation of the members, and particularly of those who by reason of clinical studies or research work either in the direction of the etiology or therapy of mental disorders are in a position to offer the results of their observations.

The requests for an abstract of papers from those who desire a place on the program as far in advance of the meeting as January 1, and for the complete paper by the middle of February should be cheerfully complied with. We observe that this provision is a mandatory one, and wisely so, we think.

The committee will have a by no means easy task in selecting from the papers offered in abstract, those of such out-standing merit as to call for the submission of the complete paper and the members of the Association can best aid in this task by prompt submission of abstracts and by an equally prompt compliance with any further requests from the committee, as well as by a ready submission to the final decision.

We would welcome the application of the provisions which the committee has made for the next meeting, to all future meetings. We feel confident that it would result in an elevation of the standard as to papers read before the Association, and equally confident that it would lessen the perplexities of future editors of the JOURNAL.

The notice from the committee is as follows:

Since the Association is meeting at the same time as the First International Congress on Mental Hygiene the arrangement of its program is somewhat modified by the program needs of the International Congress. The Program Committee of this Association will apparently be called upon for not more

than 12 papers in its own program. In view of the international audience these papers should be of the highest quality and definitely representative of the best in the various fields of thought in American psychiatry. The Program Committee therefore requests all members who have suggestions concerning the content of papers to be given at the meeting to communicate with the Chairman of the Program Committee as soon as possible.

Further, any who desire to present papers at this meeting must submit abstracts of the papers they wish to read to the Program Committee not later than January 1, 1930. Full copies of papers which, on the basis of abstracts, seem acceptable to the Program Committee, must be submitted not later than February 15, 1930.

The Program Committee realizes that these regulations will require the presentation of papers a considerable time in advance of the point at which they are to be delivered, but this is made necessary by the situation with respect to the meeting as a whole.

The Program Committee would welcome suggestions with respect to foreign psychiatrists who might be able to contribute to the program.

There will be no round table sessions this year.

Your cooperation in making this the best program which American psychiatry can offer is earnestly requested and will be most gratefully received.

PROCEEDINGS OF THE FIRST COLLOQUIUM ON PERSONALITY INVESTIGATION.—The Committee on Relations with the Social Sciences desires to announce that paper bound copies of the Proceedings of the First Colloquium may be secured by hospital librarians on request addressed to the Secretary of the Committee: Dr. Harry Stack Sullivan, P. O. Box 1, Towson, Md. Not more than one copy can be supplied gratis to a hospital. Additional copies and copies to individuals are sent post free for sixty cents for the paper bound; one dollar for the cloth.

## Abstracts and Extracts.

*Variation in Agglutinin Formation in Mental Hospital Patients and its Probable Relation to Focal Sepsis.* F. A. PICKWORTH (*The Journal of Mental Science*, 1928, 74, 709) finds that 30% of mental hospital patients agglutinate pathogenic organisms of the typhoid food poisoning bacterial group. He believes that infection of the upper part of the intestinal tract interferes with the proper assimilation of food and probably allows toxic products to be absorbed from the intestines. He makes the surprising statement, "The frequent occurrence of delusions of poisoning further substantiates the theory of gastro-intestinal sepsis; indeed the symptoms of delusions of poisoning and of refusal of food should be taken as evidence of disordered conditions of the intestinal tract, the subjective disturbances of which are dimly recognized by the patient." He considers that of all focal infections those of the upper respiratory tract which allow for the dropping of pus into the pharynx and its being carried on into the gastro-intestinal tract are most vicious because the damage to the intestinal mucosa is effected in this way and produces a vicious circle. "The interrelation between focal sepsis and the variation in agglutinin formation of the insane may, therefore, occur through the medium of a high intestinal sepsis caused or induced by infection with paratyphoid or food poisoning organisms. Poisoning and loss of leukocytes in the intestinal tract, a bacteriæmia of intestinal organisms, most of which are rapidly killed, and re-infection from pyæmic focal sepsis originally caused or initiated by the bacteriæmia, are highly probable factors in this relation."

LAWRENCE F. WOOLEY,  
Colorado Psychopathic Hospital.

*A Review of Blood-Pressures in the Insane.* K. C. L. PADDLE (*The Journal of Mental Science*, 1928, 74, 733) reports the investigation of blood pressures in 920 male cases of various forms of mental disease. The blood pressure readings were carefully controlled. He finds that, "(1) the average blood-pressure in the insane varies according to age—the older the patient the higher the blood-pressure; (2) there is little or no difference between the blood-pressures in mania and melancholia; (3) the large majority of insane epileptics exhibit a constant lowered blood-pressure, which is independent of the number or frequency of the fits or of the form of epilepsy; (4) epileptics, in common with normal persons, may have their blood-pressures raised by such conditions as arterio-sclerosis and chronic Bright's disease. Non-epileptic defectives . . . conform in general to the average of all types, but have comparatively low pressures after the age of 50." He finds no relationship whatever between mental symptoms in the insane and the blood pressure.

LAWRENCE F. WOOLEY,  
Colorado Psychopathic Hospital.



*Neurotic Superstructures in Psychoses.* IAN D. SUTTIE (*The Journal of Mental Science*, 1928, 74, 660) presents two cases which he considers as paranoia and which he treated by the psychoanalytic method with an approach to the psychosis through neurotic symptoms manifested in each case. The treatment was fairly successful in both cases. The first case is open to question as to its diagnosis, which fact the author realizes. The second case was more characteristic. An attempt to treat a depressive psychosis in the same way resulted in failure because the depression inhibited the patient's associative processes. He argues that the difficulties to avoid in approaching paranoid psychoses are, 1. "To avoid joining an issue with the patient on the question of the objectivity of his projections until he has established a strong rapport with the physician, is aware of the subjective utility of his beliefs and has been so educated in epistemology and the social meaning and conditions of thinking as to be capable of at least a formal criticism of his own thought processes." 2. "To break the vicious circle between secondary neurotic thwartings and psychotic regressions." 3. "To avoid being drawn into the circle of the psychotic system and at the same time to retain for the necessary length of time the requisite confidence of and intimacy with the patient." Hence he advises that one leave as an open question the reality or falsity of the delusional system while approaching the patient as a neurotic individual and treating him for his neurotic symptoms. As the neurotic symptoms break down under analytic treatment the author finds that the insight so gained brings about a spontaneous recognition in the patient of the meaning of his other psychotic manifestations.

LAWRENCE F. WOOLEY,

Colorado Psychopathic Hospital.

*An Investigation of the Significance of Perseveration.* WYNN JONES (*The Journal of Mental Science*, 1928, 74, 653) presents a series of tests for perseveration. These include a modification of Wiersma's visual adaptation test, his revolving color disks test, a writing test, reversed stroke test, and ideational tests (including the giving of as many nouns as possible in one minute, the giving of the names of as many animals as possible in one minute, and the giving of as many visual interpretations from a blot as possible in one minute). In general his results substantiate the general view as to the fluency of associations in mania and the lack of associations in melancholia. He reduces it to a statistical formula and finds a fairly high degree of correlation between the individual tests and their pool. He found wide variations in the mania group and believes his results indicate that manic patients may show perseveration in sensory and motor tests. He feels in melancholia the results indicate that these ideational and motor tests measure some general factor of inertia in contradistinction to tests designed to measure capacity.

LAWRENCE F. WOOLEY,

Colorado Psychopathic Hospital.

*A New Diagnostic Test for Introversion-Extroversion.* CLARENCE A. NEY-MANN and KENNETH D. KOHLSTEDT (*The Journal of Abnormal and Social Psychology*, 1929, 23, 482) present a new test for differentiation between introversion and extroversion. The test consists of 50 statements followed by the words "Yes" and "No." These statements pertain to personal characteristics of the individual tested. The scoring is based upon typical extrovert answers to all questions as the standard basis. The number of answers that do not correspond with this are subtracted, hence the extrovert has a plus score and the introvert a minus score. By this means they find that manic depressives are predominantly extroverted and schizophrenics are predominantly introverted. Their results, they state, coincided in 93% of the cases with those obtained by prolonged clinical observation and they find similar results are obtained by applying the test to 200 normal individuals; that is, a bimodal curve grouping the normals into a predominance of introvertive and extrovertive traits with comparatively few borderline cases.

LAWRENCE F. WOOLEY,

Colorado Psychopathic Hospital.

*The Psychology of Readjustment. With Special Reference to Mental-Hygiene Work in College.* KARL F. MUENZINGER and FLORENCE W. MUENZINGER (*Mental Hygiene*, 1929, 13, 250) believe that the function of mental hygiene work in college is to help the normal individual to keep fit by recognizing and overcoming injurious habits and developing resistance against possible disease. The application of a psychiatric technique to these problems has already been accepted. The authors feel that a discussion of the process of readjustment is in order, because a mere understanding of his difficulties by the student does not necessarily lead to a readjustment. Undoubtedly some cases do clear up but many do not. "They baffle the psychologists with the question: 'I understand all this, but what am I to do to get rid of my worries?'" It is for these cases that we need an exact knowledge of the psychology of readjustment in order to be able to guide them properly to complete recovery, to help them to a conscious control of their difficult situation, and perhaps even to give them a method by which they may overcome similar difficulties in the future." In their opinion the essence of the process of readjustment consists of substituting new habits for old ones. In order to bring about such substitution they believe the following items to be useful: 1. Clarification and change of purpose is corrective in that it reveals the motivation of certain types of behavior and enables one to substitute a new purpose. The danger lies in the fact that the psychologist may suggest a purpose not really present, but this can be avoided. "It can almost be put down as a law in mental hygiene that the clearer the purpose, the quicker and easier the readjustment. All the other processes described below can be thought of as integrating factors in this process of adjustment of purpose; they are always found to be dependent upon the existing purposes." 2. In the case of persistently recurring thoughts counterbalancing thoughts may be utilized. They give an example of this. They believe that efforts to control such emotionally charged thoughts by attempting to ex-

clude them from consciousness is practically impossible. Only by calling up simultaneous thoughts which also find an integral part in one's purposive striving can the control be successful. 3. They believe that many maladjustments will give way to new reactions when the latter can be shown to serve certain fundamental purposes better than the former. 4. Emotional reactions may be transferred to new persons and situations. They have found this valuable in the treatment of girl "crushes" and in these cases it is accompanied by a frank explanation of the danger of such "crushes." 5. Appeal to some strong sentiment may be made to alter the reaction. 6. Reactions may be counteracted by the fear of consequences. The authors hold that this is a valid method in some cases where other means do not offer an efficient method of control. The difficulty here lies in the fact that fear cannot be invoked or that if invoked it may be of no effect. 7. Where the difficulty is one that does not admit of immediate adjustment an attitude of detachment may be cultivated in the student so that he may look at the matter in its true light in relation to other values in his situation. 8. The formulation of a definite attack and planning ahead to meet difficulties before they arise is of value in many cases. 9. The student must be made to realize that the primary factor in readjustment must depend upon his own efforts and that the advisor can only assist him by guiding and giving directions. 10. Change of environment has proven of great value in some cases. This factor may not be successful in those cases where the habits, attitudes or delusions are carried from one place to another. In other cases the change of environment may not be essential but may make the process of readjustment much easier. In still other cases the change of environment seems imperative because a persistence of the old situation would be a constant danger during or even after readjustment. Since a change of the psychological situation is the primary aim of mental hygiene work the authors believe that in the great majority of instances this may be accomplished without a change of the physical situation.

LAWRENCE F. WOOLEY,

Colorado Psychopathic Hospital.

*The Application of Mental-Hygiene Technique in Teaching Speech.* WAYNE L. MORSE (*Mental Hygiene*, 1929, 13, 336) advances the idea that speech training is much better when undertaken with a view to developing the individual assets of the student. The older methods of drill and elocution are apt to be unsuccessful and may even do serious harm to the mental health of the student. He believes that the elocutionary procedure is liable to develop habits of overcompensation to cover the feelings of inadequacy and, in addition, it may cover up undesirable emotional habits which are symptoms of social maladjustment. He believes that for the study and analysis of emotional problems and behavior habits of students, the mental hygiene technique offers the best laboratory means that exists in our educational system, as it is the only division of the curriculum that provides a student with opportunity to analyze his own behavior and to subject his behavior to lay criticism of his fellow students and to the professional criticism of his teacher. The author has even found it possible by this method to uncover very serious

emotional maladjustments. Nevertheless, the author cautions against the adoption of such method by one who is untrained in mental hygiene technique and he believes that the future training of teachers of speech should embrace an adequate knowledge of the principles of mental hygiene.

LAWRENCE F. WOOLEY,

Colorado Psychopathic Hospital.

*Psychiatric Social Work in the La Salle-Peru-Oglesby Junior College.* LILA McNUTT (*Mental Hygiene*, 1929, 13, 271) believes that mental hygiene in the junior college has certain peculiar advantages in that the school is largely the sphere of the student's activity and that the sources of his difficulties and the resources for working them out are to be found within a relatively small area. The proximity of the student to the time when he must choose a vocation in life makes the information secured about him of great value in guidance. Since the teachers are utilized in carrying out the psychiatric recommendations they gain a broader conception of the nature of education. "The keynote of psychiatric work in the junior college is not to bring a few abnormals back to 'normalcy,' but to supplement and permeate the educational system so that when the junior college student is ready to go on to the university or to take up his vocation, he will have some insight into his opportunity as an individual not only 'to live, but to live well,' intellectually, physically, and emotionally."

LAWRENCE F. WOOLEY,

Colorado Psychopathic Hospital.

*A High-School Demonstration Clinic.* MARGARET M. PLATNER (*Mental Hygiene*, 1929, 13, 278) outlines the organization of the demonstration clinic at the Lake View High School. She feels that the terminology attached to the clinic is important. For this reason the unit was termed "Advisory Council for Students," the psychiatric social worker was designated as "student counselor," and the psychiatrist was known as "doctor." Since the unit was too small to study all of the students, it was necessary to have the students referred and on this basis the avoidance of any stigma was of utmost importance. She states that the clinic has now been in existence two years and the students are referred by principals, teachers, deans, and occasionally parents, and a number come of their own accord for advice. This latter fact she finds of great importance in desensitizing the students who are referred. Complete studies are only made in selected cases, many of the students being handled by the psychiatric social worker alone. The principal reasons for referring students have been truancy, personality defects, theft, sex delinquency, speech difficulties, and very poor scholarship. She found in a group of 35 referred for poor scholarship that 9 had an I. Q. in the 90's and 19 had an I. Q. of 100 or over. In all of these cases emotional or social factors were found to account for the difficulties. In addition to the treatment of students the clinic has conducted an educational program for the faculty. A few case reports are given.

LAWRENCE F. WOOLEY,

Colorado Psychopathic Hospital.

*Psychiatric Social Work in the Field of Education.* ELMA OLSON (*Mental Hygiene*, 1929, 13, 263) reviews the history of the introduction of psychiatric social work into the schools and discusses various types of organizations that have developed. She finds that in all of the organizations the major emphasis is on case work as a technique and on service as the aim. In addition it has the further important function of education. The progress of psychiatric social work in education may be impeded by the item of experience, the unavailability of trained workers, misunderstanding of the aims and interpretation of mental hygiene in Freudian terms and by the great lack of acquaintance with mental hygiene on the part of most educators. In this latter respect the variation in viewpoint between the educator who deals with groups of students in terms of grades and class room achievement, and the psychiatrist who deals with the individual as an individual, is of utmost importance. She believes that results so far cannot be evaluated.

LAWRENCE F. WOOLEY,

Colorado Psychopathic Hospital.

*Mental Hygiene and Social Progress.* STANLEY P. DAVIES (*Mental Hygiene*, 1929, 13, 225) believes that mental hygiene is above all a socializing technique. It has rendered service in this respect in promoting the understanding and adjustment of individuals who have failed to meet social requirements. This, he believes, is essentially true in the field of mental disease, but contributions have also been made in regard to crimes and delinquencies, and in the field of dependency. However, in addition to this he holds that mental hygiene is a positive and constructive social force. It is not only a question of keeping people out of trouble, but it is a question also of enabling the normal individual to achieve higher levels of adjustment. For this purpose mental hygiene has developed an educational program reaching into the schools and the homes of the community and has made its impression on religion. In the industrial field he cites Dr. Anderson's work at Macy and Company to show what such a technique can do in adjusting the working classes in their occupations. "Mental hygiene has already begun to prove its bold affirmation that personality may be consciously improved and better adapted to social needs. With the further extension of mental hygiene, broadly conceived, there should be a steadily decreasing number of social inefficients and a steadily increasing number of social efficient—persons who, socially speaking, are able to put something worth while into life and, individually speaking, to get something worth while out of it. This is social progress."

LAWRENCE F. WOOLEY,

Colorado Psychopathic Hospital.

*Ueber die erbliche Belastung in Fallen von sogenannter traumatischer Epilepsie im Vergleich mit solchen von sogenannter genuiner Epilepsie.* GUNTHER WEISE (*Archiv fur Psychiatrie und Nervenkrankheiten*, 1928, 85, 248) reviews the literature in relation to this subject and presents his own

studies. Of 100 cases which had been diagnosed as "epilepsy," "epilepsy (hysteria?)," "epilepsy (arteriosclerosis)," "epilepsy (lues)," "seizures (epileptic?, hysterical?)," he presents only 13 cases in order to have the purest possible cases of genuine epilepsy to compare with his traumatic series. Likewise of 60 to 70 cases diagnosed as traumatic epilepsy, etc., he selected only 11 which he considered to represent the purest possible cases of this type. Of 11 traumatic cases he found 8 in which it was impossible to establish any definite hereditary taint of neuropsychiatric disease. Among the 13 cases of genuine epilepsy there were only 2 who did not show some such taint. Therefore, he concludes that in the greater number of cases of traumatic epilepsy such a familial taint is not obtainable and for this reason it can be considered that a specific epileptic constitution is not necessary for the onset of seizures in cases with traumatic brain injury. He also finds that traumatic epilepsy, in contrast to the genuine form, may exist for many years without any psychic changes in the majority of cases. The 3 cases which showed hereditary taint, he believes to represent really border line cases between the 2 groups. As a result of the types of neurological disease which he found in the families of his cases of genuine epilepsy he considers that a physician should advise against patients having children if there is a familial history of central nervous system disease, either of seizures, paralysis, brain lesions, or mental disturbances, and especially must this be considered if both families are tainted with such illnesses. Alcoholism he finds to be also a very important factor.

LAWRENCE F. WOOLEY,

Colorado Psychopathic Hospital.

*Epileptic Manifestations in the Group of Schizophrenic and Manic Depressive Psychoses.* J. NOTKIN (*Journal of Nervous and Mental Disease*, 1929, 69, 494) reviews the literature in relation to the occurrence of epileptic manifestations in the two psychotic groups considered. He presents brief summaries of Kirsch's, Heilbronner's and Ritterhaus's cases and presents 8 cases of his own. Three of these occurred in manic depressive psychosis and 5 in schizophrenic. He finds that the occurrence of convulsive seizures is rather rare in these psychotic groups. He believes that of Urstein's 3 cases, 2 were not schizophrenics, but belonged to the emotional type of psychosis, and takes issue with Urstein's theory that all epileptics are catatonics and that the epileptic attacks are of a catatonic nature. Since the schizophrenic reaction is regarded as an established adjustment in itself he feels that the psychogenetic explanation of seizures as a flight from intolerable adjustment cannot be accepted and states that such a concept is even more difficult of explanation in the manic phase of emotional disorder because the manic attack is considered as a wish fulfillment. Moreover, he could find no cases reported which occurred in the depressed phase of emotional illness. "The relative rarity of a combination of the epileptic manifestations and the functional disorders may at least minimize the psychogenetic explanation of the epileptic seizure." The principal factors which he considers may allow for



some explanation lie in the organic theory, the heredo-cyclic conception of Kirsch, the toxic conception, the acute brain swelling in catatonia and the severe toxic states at times seen in manic depressive psychosis.

LAWRENCE F. WOOLEY,

Colorado Psychopathic Hospital.

*Alzheimer's Disease. A Contribution to its Etiology and Classification.* WILLIAM MALAMUD and K. LOWENBERG (*Archives of Neurology and Psychiatry*, 1929, 21, 805) present two cases of Alzheimer's disease, one occurring in a man of 65 at the time of admission and one occurring in a boy of 15 at the time of his first admission. The first case is entirely typical throughout. The second case shows some atypical features. They state it is the youngest case reported so far; that its duration was prolonged beyond the usual duration of the disease and the remissions which occurred in the condition are not frequently noted in the literature but have been established in certain cases. In addition the boy showed a condition of the choroid plexus consisting of an extensive degenerative process of the vessels of the villi. The onset of this illness followed an acute infectious disease at the age of seven which the author considers may have precipitated the choroid disease which in turn may have been causative of the Alzheimer's Disease which was present in advanced, typical form at autopsy. The patient died at the age of 24. The clinical and pathological pictures were in other respects quite similar to the condition described by Alzheimer. In view of the finding of such early cases of this syndrome the authors consider that the pathological picture may probably be brought about by a multiplicity of etiologic factors. They would separate the idea of Alzheimer's disease from the idea of a process belonging to the senium. He thinks that retaining the concept of precocious senility as causative of the changes in Alzheimer's disease states nothing very definite about them and that, in view of the young case presented, would render the concept of senility more obscure. He concludes that the pathologic picture described by Alzheimer is a well recognizable entity; that it is found in cases that show clinically a well defined symptom complex; that they also show individual peculiarities; that it may be caused by a variety of factors and that in one group of cases the etiological factors may have something in common with those factors causative of senile changes.

LAWRENCE F. WOOLEY,

Colorado Psychopathic Hospital.

## Book Reviews.

*Degeneration and Regeneration of the Nervous System.* By S. RAMON Y CAJAL, M. D., F. R. S., Director of the Instituto Cajal, Madrid. Honorary Professor of Pathology in the University of Madrid. Translated and edited by RAOUL M. MAY, Ph. D. (Harv.) D. ès Sc. (Paris). Laboratoires d'Anatomie et Histologie Comparées et de Chimie Biologique, Faculté des Sciences, Paris. (New York: Oxford University Press, American Branch, 1928, Vol. 1, pp. 396, and Vol. 2, pp. 369-769.)

The translator, Dr. May, is to be congratulated, not only for at last making available this fundamental contribution to the science of neurology in English, but also for his excellent translation of the spirit and delightful literary qualities of the author. This stupendous work on the reaction of the nervous system to trauma by degeneration and the later regeneration first appeared in Spanish in 1913 and 1914. The author, has, however, improved and supplemented the original to bring this fruit of "eight years of continuous and patient study" up-to-date for the English edition. It was written originally for publication in Argentina in answer to a request by Cajal's Argentinian friends to honor him by publishing a book of his at their expense. Unfortunately, the war, and the limited use of Spanish by most scientists, has practically kept it from general knowledge until its present appearance in English.

The work is divided for convenience into two volumes. The first one, in addition to an excellent and delightful historical account of the opposing views on the reaction of nervous tissue to trauma, also contains a chapter on the special histological methods applied by the author in his study, and deals with the reaction as seen in the peripheral nerves.

The second volume takes up the response to trauma in the sensory ganglia, the spinal cord and nerve roots, the cerebellum, and the cerebral cortex.

Since the study concerns itself with the changes in the finest histological details, the author includes a chapter in the first volume describing the normal appearance of the various structures later to be examined under pathological conditions. Fundamental to the understanding of the nervous degeneration are the facts that "myelin is a complex of protein materials and lipoidal substances, both arranged in concentric laminae, and that the combination of these two factors is extremely unstable." The axon, on the other hand, consists of a transparent, probably liquid, substance, the *dentoplasm* or *neuroplasm* in which the semi-solid skeleton, the neurofibrillar apparatus, is located. Cajal looks upon the neurofibril "not as a morphological unit but as a colony of living ultramicroscopic particles, the *neurobiones*, which are capable of growth, multiplication, and progress." Finally, the edge of the axon consists of a thin, elastic fibril-free mantle.

It is impossible to give even a conception of the ultimate analysis which the author makes of the degeneration of the interrupted nerve. Very briefly and generally stated, however, he brings out that the peripheral stump degenerates rapidly, but that all the elements do not disappear. By liquefaction and absorption, the axon, myelin, and some of the organs close to the Schwann's cell (Soldering disc, rings, infundibula, etc.) disappear. The sheath of Schwann, the connective tissue, and capillaries of the nerve remain. The Schwann's cell, indeed, not only survives, but multiplies rapidly. It thus appears that those parts trophically dependent upon the nerve cell become destroyed and later restored, while those parts independent of the neuron flourish and serve in a protective and nutritive capacity for the newly forming axons.

The central stump of a cut nerve, remaining as it does in direct continuity with the cell or trophic center, does not undergo Wallerian degeneration. The portion of the central stump bordering upon the wound, however, suffers in a manner similar to the peripheral one as a result of the action of the noxious agent directly upon it. The latter sets up what is known as the traumatic inflammation which results in the *traumatic degeneration*.

After varying intervals the debris is carried off. The axons grow down through the scar into the peripheral stump and eventually reach the end organs. This process, as well as that of degeneration, is extremely complicated and is discussed in detail by the author.

As a result of his own studies and those of other workers Cajal sets down a series of laws which seem to control the phenomenon of peripheral nerve regeneration. Thus, the axon, given constant surroundings, tends to grow longitudinally by an assimilation of protoplasmic material. This growth has a tendency to continue in a straight line unless diverted by some external factor. "The longitudinal growth of nerve fibres is especially localized in their free ends where the cone of growth is situated, a constant organ of the axon in embryos as well as in nerves undergoing pathological regeneration." In addition to creating terminal cones, an axon, stimulated to growth by injury, may also give rise to new branches along its path in turgid regions which correspond to cones of growth. The cone of growth thus serves not only to lengthen the axon but to create new nervous pathways.

There is a certain definite relationship between the volume of the terminal bud and the rapidity of growth; the larger the bud, the slower the growth. When the fibres grow fastest they are thinnest in calibre. Usually, then, when growing across the scar, the fibres are quite thick.

This thickening of the fibres takes place along the entire length,—unlike the increase in length which appears to be a function of the terminal cone.

The rapidity of growth of the nerve also varies with the physical and chemical character of the environment, and also with the age of the individual. The growth in an embryo, for example, is faster than in an adult. Up to a certain point, the nutrition of the growing axon is a local process, independent of the cell of origin. The cell of Schwann is not essential for the growth. According to Heidenhain, the nerve cell sends

out, not a soluble enzyme, but a special *histodynamic impulse* contributing to the growth, which differs from the ordinary physiological impulse.

In addition to the trophic control by the nerve cell, there is a second factor necessary to the maintenance of the function of a new axon, and that is, use. In its absence atrophy and absorption take place.

Finally, Cajal is convinced that the neurofibrils are composed of ultra-microscopic grains of living protoplasm behaving as individual units.

Thus far, intrinsic conditions for growth have been considered. A totally different set of conditions due to the local environment of the sprouting nerve root affects its growth. For example, if an obstruction is placed in its pathway or a neurotropic stimulus appears in a direction at right angles to the growth, the nerve does not deviate abruptly at right angles but takes a parabolic direction. The newly formed nerve fibres tend to adhere to obstacles especially those with smooth surfaces. These attract each other to form bundles (law of reciprocal homotropism) and are so better able to penetrate the peripheral stump. The production of collateral branches usually results in response to mechanical or chemical stimuli.

In the presence of an unsurmountable obstacle, the terminal club may be arrested and become greatly enlarged, one or two branches may surmount the obstacle after exploration and the rest follow, or the club may become segregated or autotomized. Swellings along the new nerves are indications of former clubs where obstacles were met and overcome. All arrested or autotomized clubs degenerate.

The successful restoration of the peripheral stump depends upon (1) the neurotrophic action of the sheaths of Schwann and terminal structures; (2) the mechanical guidance of the sprouts along the old sheaths; and (3) the superproduction of fibres, some of which are sure to arrive at their destination. The most important of these factors is the first. The neurotrophic action of the Schwann cells is generic for all fibres, while that of the motor end plates and cutaneous sensory structures is specific for their own type of fibre. The neurotropism is brought about, according to the latest theories, not by attraction of the sprouts, but by creating a favorable chemical environment (enzymes), thus stimulating growth. Other substances exist, however, which moderate, or act indifferently, or—as in the presence of pus, certain dyes, etc.—even paralyze the growth.

In conclusion, Cajal presents the facts supporting the enzyme theory of regeneration and reviews the various other theories historically.

The second volume begins with a short chapter on the normal structure of the sensory nerve ganglia, followed by a discussion of the processes of degeneration and regeneration in these units. A spinal ganglion subjected to trauma shows a necrobiosis of all the cells immediately affected as well as those indirectly harmed by the noxious agent. The degenerated cells are replaced by polyhedral cells (probably arising from a proliferation of the satellite or subcapsular cells) and leucocytes. The nerves affected also undergo degeneration. A primary centrifugal degeneration occurs in both

polar axons when the neuron degenerates, or if the axon alone is injured, a traumatic degeneration occurs in the central stump, and a Wallerian degeneration in the peripheral one. A trauma to the nerves in the neighborhood of the ganglion may be propagated to the cells and result in retrograde degeneration.

Aside from the dead cells and the uninjured ones, certain others undergo changes which may be classified according to types. Cajal distinguishes between (a) frayed or toothed-wheel shaped cells; (b) hirudiform cells; (c) angular cells; (d) retracted cells; (e) deformed cells.

Regeneration in these injured cells is characterized chiefly by pericellular spools of fibrils. The nerve fibres repair in a manner similar to that which takes place in peripheral nerve sections.

There follows a detailed study of the changes occurring in the cells and fibres of transplanted sensory as well as sympathetic ganglia based upon the work of Nageotte, Marinesco, Cajal himself, and others. Transplanted sensory ganglia usually die and become absorbed. The cells directly under the capsule of the transplanted ganglion may survive for a time, and during this period take on various modifications. Instead of unipolar, they become multipolar, taking on "multipolar and even monstrous shapes." New fibres also form as a result of the increase in polarity of the cells.

The sympathetic ganglion cells that survive transplantation may also produce "sprouts, ball, and other structures and phenomena that reveal an attempt on the part of the neuronal protoplasm to accommodate itself to the abnormal environment and to turn it to the best account." But the sympathetic cells react much less abundantly in this manner than the cells of the dorsal ganglia.

The contributions to the study of the degeneration and regeneration of spinal cord severance is divided into two chapters—the first, dealing with the white, and the second, with the gray matter, of the cord. The author shows how, after elaborate phagocytic action to remove the debris, complicated regenerative processes take place, but the reestablishment of normal connections in the fibre pathways of the cord is frustrated by a secondary atrophy of the regenerated fibres. This view is in contrast to the general conception that failure of restoration of function in the severed spinal cord is due to a primary failure of regeneration. Just how this destruction is effected has not as yet been thoroughly elucidated. Evidently, the newly formed fibres cease to grow between the tenth and fourteenth day, and during the next few days become retracted into deeply staining balls and die.

The destruction that takes place in the nerve cells of the spinal gray matter naturally depends on the trauma—both as regards its nature and its severity. Those cells that survive the immediate injury may show a wide variation of changes such as granular state, chromatolysis, neurofibrillar hypertrophy, hirudiform state, perturbation of the endo-cellular Golgi apparatus. Some of these eventually completely degenerate and disappear, others recover completely so that, after six to twelve weeks, only normal cells are found.

The scar which forms after repair of a cord injury, the author was able to confirm, consists of an internal one of ectodermal origin surrounded by a mesodermal scar, sheath-like in form, the two being easily distinguishable by a definite line of demarcation. If the original wound had reached the ependyma, a cyst, lined with ependymal cells, is formed which is continuous with the central canal, and which limits the mesodermal scar from advancing beyond its outer wall.

There follows a chapter on the degeneration and regeneration of the intraspinal portions of the spinal roots as a result of serious alterations in the neighboring spinal cord. In the case of the anterior roots, those immediately adjacent to the cord lesion rapidly and completely degenerate. Those at some distance show a degeneration limited to only some of the fibres. Regeneration of these fibres beginning within the cord often finds an obstacle in the basal membrane of the cord which many of them are unable to penetrate. In lieu of this they form branches inside the membrane which become retrograde or take up and down directions. Others which pass through the membrane may continue to grow into the periphery of the root.

Sensory spinal roots suffering trauma within the cord or between the cord and ganglion behave, in their central portion, much like peripheral nerves. Owing, however, to mechanical obstacles of entrance into the cord, or the absence of trophic material within the cord, regeneration is usually frustrated. In young animals, and where the continuity has not been broken by the trauma, the new fibres penetrate the cord and travel up and down in the posterior bundle.

A short chapter on degeneration and regeneration in the optic nerves and retina brings out the facts that since these nerves lack sheaths and cells of Schwann, they react to trauma not like the peripheral nerves but like the white matter of the cord or brain, namely, by insignificant and frustrated regenerative efforts.

The degeneration taking place in the cerebellum following trauma, in the central stump of the lesion, let us say, in the white matter under the granular layer, may be divided, as in the spinal cord, into an immediate necrotic zone and a degenerated zone beyond. Degeneration and resorption of the axons of the purkinje cells takes place up to the level of the last collateral. If the trauma is between the first collateral and the cell, a retraction club or ball forms which becomes resorbed, leaving an axonless cell. When the collaterals are preserved, they tend to hypertrophy to the size of the axon; this results in cells with short axons which often show a peculiar retrograde arc. Regeneration in the degenerated peripheral portion of the axon is never seen.

Arciform axons similar to those forming after experimental trauma are also seen in human beings without apparent disease of the cerebellum but who were suffering from senility, intoxication, etc. Cajal believes that these form as a result of partial weakening of the dynamic powers of given cells. The resulting short axon is not, however, totally useless, but the impulses arising in these cells probably fall back upon cells with normal axons and thus increase the energy of efferent currents.



The purkinje cells themselves, if very close to the trauma, also undergo various types of degeneration of a retrograde character, most of them ending in the death of the cell. Other elements of the cerebellum such as the purkinje baskets, the moss and climbing fibres are less remarkably, but also definitely, involved in specific types of degeneration and regeneration.

The fourth part, including the final chapters of the book, is devoted to the reaction of the cerebral cortex and white matter to trauma. When the cerebrum is injured experimentally the degeneration and reaction is similar to that in the spinal cord and cerebellum, but for variations of intensity and form. In the cerebral cortex, separation between the living and necrosed portions takes place with extraordinary rapidity. Most characteristic of the cortex, however, is the exquisite susceptibility of the cerebral fibres and cells to mechanical trauma. The least commotion, stretching, or compression especially when accompanied by diffusions of blood, causes almost instantaneous death of the nervous tissue. This is accompanied, nevertheless, by the phenomenon of *preservation*, that is, a retention of perfect morphological integrity of the dead elements. In the central stump of a cerebral wound, on the margin of the wound, a zone of *preserved* fibres appears. These have normal calibres and stain deeply with silver, but they appear coiled and zigzaggy, not unlike elastic fibres in appearance. The terminals of these fibres on the margin of the wound show hooks, coils, or glomeruli, without any buds or thickenings. The terminals at the opposite end of the preserved zone taper off and grow pale until they reach buds of reaction on the ends of the living stumps. The preserved fibres sometimes persist for two or three weeks before they hyalinose and disappear.

In areas of interstitial hemorrhage, a curious *preservation* of fibres occurs which is not even accompanied by coiling, but as they are followed toward the living neurones they taper and fade out. Cajal believes that an anti-autolytic principle is present in the sanguinous exudate and accounts for the phenomenon of preservation.

When dendrites are cut, *preservation* also takes place, but neither central nor peripheral stump is able to form buds, balls, or other phenomena of neurofibrillar reaction to trauma.

Nerve cells, too, when isolated and surrounded by coagulum, may show preservation of the intracellular neurofibrillæ for several days.

The peripheral stumps of axons separated from their cerebral cells of origin behave with, some differences in detail, as spinal cord fibres do.

The chapter dealing with the degenerative reactions of cortical neurones is of particular interest since it shows the severity and types of degeneration associated with various types of trauma.

The regeneration in the brain tissues is essentially ineffective. Even the attempts at regeneration are apathetic and precarious and die down within a few days. But the author stresses the important biological fact that these regenerative phenomena while ineffective are not absent—a fact which “definitely refutes the fatalist concept of the essential irreversibility of central paths.”

The late results of injury to the cortex of the brain are very interesting. In young cats and dogs radial wounds made by a scalpel heal with such a fine scar that it is difficult to find them. Scrupulous examination shows a loss of some of the collaterals which cross the direction of the scar at right angles. Transverse lesions, on the other hand, cause the necrosis of a large number of pyramidal cells, interrupt numerous axons whose direction is radial, sever a larger part of the centripetal conductors coming from the inferior centers, and, finally, section numerous radial blood vessels of regular calibre, bringing about hemorrhage and consequent asphyxia of large regions of the gray matter.

As already stated, all efforts on the part of cerebral nervous tissue to regenerate become frustrated, and the last chapter in the book is devoted to an historical review of the opinions attempting to explain this failure of regeneration.

LEO M. DAVIDOFF, M. D.

*Ideal Marriage: Its Physiology and Technique.* By TH. H. VAN DE VELDE, M. D. Translated by STELLA BROWNE. Introduction by J. JOHNSTON ABRAHAM, M. D. (London: William Heinemann, Ltd., 1928, 323 pp.)

This is a highly civilized book. "The book is a first part of a trilogy. It treats of the sexual basis of married life, and aims at increasing the forces of mutual attraction in marriage, through the evolution and improvement of physiological relationships . . . knowledge here is the indispensable basis, both theoretical and practical, for success in marriage. It attempts to fill a *lacuna* which still exists in scientific literature for the medical man or woman, and at the same time to give doctors an opportunity to refer those patients who need instruction in this particular matter—and all doctors know how many such patients there are!—to the relevant passages, which will spare them the embarrassments and inadequacies of a possibly painful personal consultation." To say that Dr. Van De Velde has distinguished himself beyond all his predecessors in accomplishing the task which he thus outlines in his preface, is to give him but just praise. Realizing that since "This book will state many things which would otherwise remain unsaid . . . it will have many unpleasant results for . . ." the author, he, none the less, feeling that he has a duty derived from many years spent in gynæcology, takes frankly to the satisfaction of this duty, and "writes down what he has learned to be true and right." "There is need of this knowledge; there is too much suffering endured which might well be avoided, too much joy untasted which could enhance life's worth." Disdaining the protection of a pseudonym, he states "my advice and suggestions here are offered in a wholly responsible, *i. e.*, ethical, spirit, and would lose half their moral purpose if proffered anonymously or under an assumed name."

Part I includes three chapters: Preliminary considerations, marriage, actual and ideal; glimpses into the general physiology of sex, in two parts—the first considers the evolution of the sexual impulse and sexual sensations

and internal stimuli. The second part discusses sexual sensations and external stimuli. The reviewer doubts if there be any reader of this book who will not come upon new knowledge in the thorough but very readable discussion here, which includes such topics as: psychic impressions; sensory impressions, the sense of taste and the sense of hearing; music, including the human voice; the sense of smell; individual olfactory sensitiveness, natural and personal odors, respiration, perspiration, general bodily exhalations; specifically sexual odors with individual differences; olfactory sexual impressions: attractive or repulsive; perfumes and the sexual impulse; etc. "For he does not know that there are numberless delicate differentiations and modifications of sexual pleasure, all lying strictly within the bounds of normality, which can banish the mechanical monotony of the too well-known from the marriage-bed, and give new attractions to conjugal intercourse. Or, if he guesses this truth, he thinks it implies degeneracy and debauchery, . . . . He thinks his wife is 'far above that sort of thing,' leaves her more and more to herself, seeks the diversity of stimulation he needs outside his home, and often ends in *real* debauchery in consequence!" "For the fundamental difficulty is this; that as soon as sexual attraction is extinguished, sexual repulsion and enmity manifests itself."

"The most important of all the senses, in sexual matters, is *touch*. . . . We will treat the tactile stimulation of the genital organs in a later chapter, and deal here and now with the sense of touch in general. And here we must primarily distinguish an *active* and a *passive* sense of touch. . . . The lips of the mouth are midway between *active* and *passive* tactile agents. . . . In general, we may say that under favorable *psychic conditions*, the stimuli received by the passive tactile sense, are of a sexually exciting kind. . . . Here it must suffice to state that while the whole epidermis may be sexually receptive to touch, there are certain parts of it which are preeminently so. Their technical name is *erogenous zones*. The *erogenous zones* are mainly grouped around the openings of the body (orifices), or in their neighborhood. I cannot wholly agree with Havelock Ellis and the other authorities who consider *erogenous zones* dependent on the connections between epidermis and mucous membranes . . . . the lateral portion of the eyesockets and the surroundings of the aural orifices. Indeed, the lobe and helix of the ear are a definitely *erogenous zone* in many persons; and the same is true of the lobule. But this zone requires vigorous stimulation, such as suction, before the sexually-stimulating effect is produced, though it can then be very effective. . . . It might be maintained that the deep fold or crease which on either side separates the buttocks from the upper part of the thighs—and which is extremely responsive to *light* touches—and the inner curves of the upper portion of the thighs, are more or less adjacent to the genital and anal zones. But that can certainly not be said of the specially sensitive areas on either side of the end of the 'false rib'; behind the angle of the lower jaw and round the nape of the neck, along the edge of the hair! . . . . *Active* tactile sensibility can lead to extreme sexual excitement. . . ."

After a delightful "intermezzo of aphorisms" including Leonardo da Vinci's "The greater the man's soul, the deeper he loves," the reader comes to Part II, which discusses specific anatomy and physiology of sex. Three chapters are devoted to the sexual physiology of the adult woman: the first to an introduction and consideration of the external genital organs, the second to the internal genital organs, and the third to ovarian activity, rhythm of vital manifestations in the female organism, and menstruation. Chapter VII discusses the anatomy and physiology of the male sexual organs. These chapters are as thoroughgoing as one could desire, are crammed full of information and wise utterances, and are illustrated by eight nicely adapted plates. This part ends with a second intermezzo of aphorisms, including "He who maintains that he loves without desire is incapable of experiencing desire," by W. T., and Stendhal's "Love does not count the years." The latter suggests our quoting from the text "In our present state of uncertainty, it seems advisable for a healthy man in the fifties and sixties to prevent, so far as possible, the atrophy of his organs, by exercising them regularly and appropriately, . . . I take the responsibility of advising regular conjugal intercourse, in the fifties and sixties, unless specific morbid symptoms counter-indicate." In that connection also one may note—as a mark of the thoroughness of the treatment—"The *pollutions* or involuntary seminal losses to which young men who are sexually abstinent are peculiarly liable owing to the accumulation of sperms, can take place every fortnight or three weeks and sometimes every eight days. In later years they occur less often. They usually take place only during sleep and in association with erotic dreams, and the ejaculation is accompanied by deep pleasure and satisfied relief . . . the motor reflex of ejaculation which derives *solely* from the seminal reservoirs and causes the unconscious discharge—only happens during sleep! And this proves conclusively that when consciousness is awake, the process of ejaculation is inhibited and controlled from the cerebral cortex, *i. e.*, through the active cooperation of the soul. And similar inhibitions of erection and ejaculation, . . . may prevail under various other circumstances; a fact which many men have great reason to be thankful for—and not a few, the reverse." "In the anterior urethra are a good many very small glands, which, together with Cowper's glands . . . secrete a small amount of transparent, thin, alkaline and very slippery fluid. . . . The mucus secretion of Cowper's and the urethral accessory glands, may appear after the local excitation and erection of the male organ, . . . Or it may appear while the member is still slack, or at least not in full tension. The latter is especially the case if sexual excitement is produced through solely psychic impressions such as thoughts, books, pictures, without direct female agency, or if the psychic influence and contact with a woman who is desired, much precede physical contact: . . . Inexperienced youths, who are anxious about their mental and physical health and their virile potency, still often mistake this normal lubrication for loss of semen. *It is nothing of the kind.* It is a distinct process, which prepares the bodily organs for coitus. . . ."

Part III deals with sexual intercourse: its physiology and technique. The first chapter discusses in 29 pages the definitions of normality, the normal stages of sexual intercourse, the prelude and love play. The next two chapters take up physiological and technical considerations. The fourth chapter of this part considers position and action during coitus; and last, the epilogue or after-glow. The entire subject, to which is devoted 109 pages, is treated in a fashion which certainly comes close to the definitive. Such a hundred pages, written with the notion "unmistakably clear that by 'sexual intercourse,' . . . we refer exclusively to normal intercourse between *opposite sexes* . . ." and with the "intention to keep the Hell-gate of the Realm of Sexual Perversions firmly closed"; yet "On the other hand [with emphasis on the fact that] Ideal Marriage permits normal, physiological activities the fullest scope, in all desirable and delectable ways"; such a hundred pages, we repeat, comes so near to being definitive that only those who for reasons best discoverable by their psychiatrist choose to engage in acts beyond "the limits of normal sexuality: limits which are wide and various enough in all conscience! [and to seek satisfaction in] Morbid deflections, twisted and abnormal desires [that] have no place in the physiology of marriage, in spite of their primitive ramifications, manifold diversity, and extraordinary frequency in the whole field of sexual life. And ideal marriage should be kept free from their taint, with all the knowledge and power at our command. [For our author agrees with the eminent Remy de Gourmont that] 'The pathology of love is a hell whose gate should not be opened at all.' [And he is] . . . ever careful to keep those sinister portals closed"—yet again, we say, to only such as choose, involuntarily, the Doric fields beyond these 'sinister portals,' will there seem in these 109 pages any lack of information and wise advice for the governance of intimate relations with their mate.

Part IV is entitled "Hygiene of Ideal Marriage." "The Hygiene of Marriage treats of everything tending to place conjugal cohabitation on a wholesome basis, to promote the health and thence the happiness of their life together, and so far as possible to avert all that could endanger this health and happiness. In a general sense, therefore, it would comprise the whole bodily hygiene of sex, and a large part of its psychology." In spite of the admitted magnitude of this task and the fact that our author feels that he must confine himself in this volume to the hygiene of sex life in marriage, the presentation—a matter of 67 pages—seems to the reviewer one of the most thoroughgoing, detailed, and practical discourses conceivable. The first intercourse, or defloration, is dealt with. Were its teachings widely disseminated and carefully practiced, we would miss some of our cases of fortuitous marital disharmony. There are five paragraphs on the honeymoon. A chapter is devoted to the influence of the sexual function on physique and psyche: "Sexual activity *in itself* has an *extremely favorable influence on a woman's mind and body* . . . pregnancy, to a woman of normal instincts, is enormously desirable, for it means *Motherhood*; . . . yet it provokes, simultaneously and almost normally, the unequivocal signs of anxiety neuroses. . . . Fear of pregnancy often impairs sexual processes and reactions on the



psychic side. . . . Many marriages are totally ruined by this fear and its consequences." "Even within normal limits, *male sexual potency* varies considerably; . . . And, it is above all, an *idiosyncrasy, an individual peculiarity*, whose determining factor is quite unknown to us." Some readers will be astonished to read "I am therefore of opinion that a difference of 10 or 15 years between husband and wife at the inception of marriage is excessive and inadvisable if the bride is only 20. I would suggest that about half this difference is preferable, *i. e.*, that the man should be not *less than five, or more than seven, the senior*. In short, I would retain 30 as the desirable age for marriage in men, and raise that of the girl from 20 to 23 or 25."

Chapter XV, "Personal and External Factors Affecting Sexual Intercourse," considers the relation of food and drink, alcohol and the like; some discussion of aphrodisiacs—there is enough of warning concerning yohimbin; and the following: "Impotence is so serious and complex a condition . . . that its treatment is a matter for the medical specialist." Several pages are devoted to the question of periodicity of the sex urge. There follows a chapter on intercourse in special physical circumstances, pregnancy and menstruation. In this chapter there is a supplement discussing care and cleanliness of the organs of copulation: these are detailed and specific. Perhaps one might consider amending some of the instructions by substituting stearate of zinc for talc.

Chapter XVII, the end, discusses "Psychic, Emotional and Mental Hygiene." The hygiene motto is "exercise without excess; efficiency without exaggeration." ". . . sexual activity only is an inspiration and benefit to the psyche (mood, mental capacity) of both partners, as and so long as it is in harmony with their general and specific (genital) powers." ". . . it is *never* good to make any *one* function of any organism, even the most important function, so predominant and absorbing that the others—and the whole entity—suffer thereby." He pleads pointedly for respect of each mate for the other's personality and privacy: "Learn when and how to leave each other alone!" There follows a discussion of satiety, of asceticism, and on moral teachings as they pertain to his subject: ". . . I hope to have proved that religious faith and Ideal Marriage are not incompatible . . ." With due obeisance to these ideals, the author writes "It is an enormous error to regard perfect technique in sexual intercourse as *an end in itself*. . . . Voluptuous pleasure alone, however refined and varied, cannot bring real happiness, without that solace to the soul which humanity desires, and must forever seek. . . ."

What of the psychiatric considerations implicit in the work under review? Our author seems to have come by the way of long observation and experience with his fellow man to the realization that it is impossible to have mental and physical health without a considerable degree of adjustment of the manifestations of the sexual impulses. He realizes that the irrational attitude of aversion and repugnance toward sexual considerations is damnable and destructive. He feels that a clear statement of facts is the greatest remedial agency. Knowing as one does from certain of his statements that he is not



without acquaintance with psychoanalytic and related contributions to this field, one realizes that he is not presenting a cure-all for marital disharmony. As a matter of fact, the book under review is intended to be followed by a volume on "The Prevention of Conjugal Aversion." With all due regard to the grave psychic handicaps which many have encountered in their personality so that they can scarcely be conceived to succeed in marriage except by personality reorganization; we need not fear that the wide distribution of Dr. Van De Velde's book can do even these any harm. For the reviewer is convinced on the basis of the material of many schizophrenics that a history including any sex activity represented by any actual cooperation with another person, is prognostically far more favorable than is a history that includes no such attempt. It may well be that a great deal of the less grave maladjustments which we see in marriages will be obviated entirely by the dissemination of such knowledge as that contained in the book under review. With processes so mighty as those making up the sexual impulses, minor kinks in personality may well prove ineffective as sources of distortion when one has learned thoroughly the technique of gratifying undistorted impulses. Nay more, I know that there are some incidents of schizophrenic psychosis that would certainly have been much delayed had the unfortunate youth been possessed of a good theoretic insight into the business of sexual intercourse before his complex-driven attempts brought him the final grave reduction in self-esteem.

HARRY STACK SULLIVAN,

Sheppard and Enoch Pratt Hospital.

*Manual of Psychiatry.* By AARON J. ROSANOFF, M. D. (New York: John Wiley & Sons, Inc., 1927, 697 pp.)

The appearance of the sixth edition of the manual under review provides the student with one of the most comprehensive treatises available in the English language. It must be a rare subject in the broad field of psychiatry on which one can find nothing in this book.

The general standpoint of Dr. Rosanoff and his contributors refers rather emphatically to the importance of the *soil* in the etiology and developmental character of mental disorder. Heredity is accepted as by far the most significant factor, and alcoholism, other chronic intoxication, syphilis, head injuries, and various toxic, cytopathic and dysmetabolic conditions, follow in their order of importance. While one encounters throughout the book references to the consideration of mental dynamics or process of personality evolution and maladaptation—there is a chapter of 20 pages entitled "Psychoanalysis"—one finds very little calculated to contribute anything of optimism in psychiatry. In this connection one may note that nine pages are devoted to "Applications of Sociology in Psychiatry," this being the work of Miss Jarrett and pertaining to psychiatric social work. Therapeutic phases of psychiatric practice as reflected in this textbook are epitomized in "It may safely be said therefore, that a movement for the prevention of mental

disorders will lead the race in no mistaken path if it concentrates the bulk of its energies on the problem of bad heredity."

General psychiatry makes up Part I; 64 pages considers etiology and symptomatology. "Hallucinations are, then, an expression, and not a cause, of delusions; and that is why they harmonize so perfectly with the mental state of the subject. . . . *Abnormal mobility of attention or distractibility* consists in paralysis of deliberate attention, spontaneous attention being intact and in most cases even exaggerated. . . . Flight of ideas, almost always dependent upon an abnormal mobility of attention, consists of a rapid succession of representations which appear in the field of consciousness without any order, at the occasion of external impression, superficial resemblances, coexistences in time or space, similarities of sound, etc. . . . Judgment is the act by which the mind determines the relationship between two or more representations. When the relationship is imaginary the judgment arrives at a false conclusion. This becomes a delusion when it is in *obvious* conflict with evidence. . . . The sum of a patient's delusions constitutes a *delusional system*. Such a system may consist of purely imaginary ideas, or of ideas based upon facts improperly interpreted. . . . The changes of other mental faculties, such as memory and general intelligence, are not necessarily proportionate to those of affectivity. . . . When psychic pain attains a certain intensity it results in *anxiety*. . . . *Suicide* is one of the most formidable consequences of psychic pain. . . . Pain, associated with a representation of its cause, and sufficiently intense to overcome the psychic paralysis which is an essential accompaniment of depression, results in anger. . . ." The following occurs under the subhead "Disorders of the Reactions": ". . . reactions may be of two kinds: *voluntary* and *automatic*. . . . We shall study: (1) *aboulia*, or paralysis of voluntary reactions; and (2) *automatic reactions*. . . . Complete paralysis of the will brings about, depending upon the character of the case, either stupor or absolute automatism." [The Index includes the following references only: Will, *see* Reactions; Will, freedom of, 448—the latter refers to current legal conceptions "based on the metaphysical theory of freedom of the will."] Part I of the book ends with the following sentence: "In connection with mannerisms, negativism, and other disorders of the reactions the student is again referred to the special chapter in this book devoted to psychoanalysis for a psychological theory of the mechanisms underlying their development."

Part II, Special Psychiatry, in which are considered classification and the various nosological entities, incorporates in 268 pages a remarkably comprehensive and well-ordered presentation of symptomatology and prognosis. Needless to say, considering the fundamental postulates of the book, there are many statements to which the reviewer might take exception on the grounds that the implications of the treatment were unfortunate for psychiatry. This does not in any way diminish the importance of the book as an epitome of psychiatric observations. As one might expect of a text that has stood so well the changing times and viewpoints in our most active field, there are survivors of earlier viewpoints alongside many evidences of

Dr. Rosanoff's continued contact with psychiatric thought. One finds for example, under the etiology of dementia præcox, that "Psychopathic heredity is to be regarded as the essential cause. . . ." And under the head of Treatment, the following only: "Excitement, refusal of food, dangerous tendencies are treated, as they arise, by the methods described elsewhere in this Manual. An effort should be made to combat stereotypy in all its forms by suggestion and by diversion and occupation. Employment at useful labor is desirable also from the economic standpoint; precocious dementers constitute a large proportion of institution workers and thus contribute toward their support." Next follows a discussion of "Theories of Dementia Præcox": in this we find a fairly extended quotation of the psychobiological view of these disorders promulgated by Adolf Meyer. The section ends "It would seem best to keep an open mind on the subject and, in a given case, to take cognizance of all available facts in the quest for therapeutic indications." The last chapter of Part II, however, remarks, in discussing personality, "Each of the abnormal types of personality that has been clinically distinguished is probably determined by special factors in heredity, . . ." and ". . . current prognostic generalizations concerning recurrence, chronicity, and deterioration in the constitutional psychoses ["dementia præcox, a constitutional mental disorder . . . manic-depressive psychoses, a group of constitutional mental disorders . . . paranoia, a constitutional mental disorder . . ."] though no doubt valid for the majority of cases, are not valid for all. . . . The establishment of the fact of at least occasional recoverability of constitutional psychoses, . . . in turn lends corroboration to the theory which explains the recoveries by a special relative order of ontogenetic development of the different temperamental elements of personality." In other words, and referring to rudimentary psychotic manifestations seen in childhood, we have at least three possibilities: "(1) the 'normal' constitutional factors mature early, causing the psychotic factors to fade before the age of incidence for fully developed psychoses has been reached; (2) the 'normal' factors are largely wanting and the subject, as he matures, develops a psychosis which is either recurrent, chronic, or deteriorating in its course; (3) the 'normal' factors are relatively late in maturing, thus permitting the psychosis to develop; such psychosis, however, ends in permanent recovery as full development of the 'normal' factors is eventually attained."

Part III of the book is devoted to The Practice of Psychiatry. It begins with history taking and methods of examination; discusses special diagnostic procedures of a physical and psychological nature. H. L. Hollingworth contributes a chapter on the Applications of Psychology in Psychiatry. Chapter IV "Psychiatric Therapeutics," takes up institution, commitment, treatment of excitement, suicidal tendencies and refusal of food, rest and diet, parole and discharge, and after care; this in addition to psychotherapy—"Psychotherapy is the use of psychic factors in the treatment of disease. An essential element of psychotherapy is suggestion. Its successful practice is dependent on the nature of the disorder, the attitude of the patient, and the personality of the physician. The psychoneuroses are most amenable to

psychic treatment. . . . The following practical advice, evidently born of abundant experience, is given by Dercum: . . . Special mention should be made of religious influences, which are of extraordinary efficacy in some cases. . . . In cases of mental deterioration the object of psychotherapy is reeducation, . . . Delusional states are notoriously refractory to suggestion or reason. Yet in selected cases, in which the delusional system is, so to speak, of a parasitic nature, not essentially a function of a vicious mental organization, something may be accomplished when a favorable opportunity presents itself of demonstrating to the patient the incorrectness of his belief. . . . For fuller guidance in practical psychotherapy the student is referred to the work of Dubois. A special system of psychotherapy has developed in recent years out of the labors of Freud and his pupils." Chapter V, Psychoanalysis, begins "Mental phenomena, like physical ones, arise not spontaneously or at random, but from adequate causes in accordance with natural law; i. e., here, as elsewhere, applies the doctrine of *determinism*. . . . For an understanding of the particular factors at work in a given case and for more purposeful planning of psychotherapy a study of content must also be made. Such a study must concern itself . . . with a systematic probing for psychic factors many of which have passed beyond his [the patient's] present recollection or awareness. This is the particular task of *psychoanalysis*." The Realm of the Unconscious, Sexual Theory (Freud), Psychopathology of Everyday Life, Interpretation of Dreams, Two Kinds of Thinking: Realistic and Autistic, and Technique of Psychoanalysis, cover the sections of this chapter. The author remarks "Cures through psychoanalysis are effected by bringing to light unconscious complexes underlying psychoneurotic symptoms and thus achieving psychic '*catharsis*.'"

There is a chapter on medico-legal questions in psychiatry. Chapter X of this part discusses mental disorders of childhood and mental hygiene. "*Training and guidance should be instituted in earliest infancy*. The aim during this period should be the development of *conditioned reflexes* adjusted to the performance of the functions of sleeping, feeding, moving the bowels, and voiding urine; also the prevention of development of undesirable conditioned reflexes in connection with these functions. . . . Whether innate or acquired, these resistive tendencies [noted by Levy and Tulchin in experiments of testing intelligence in young children] may occasionally persist beyond the ages of infancy and early childhood and are possibly the roots of the negativisms, suspicions, incooperations, and aggressive and destructive tendencies seen in later life in psychopathic and psychotic patients. Hence it is important to institute special efforts for their correction in infants and young children." "Young folk should have it pointed out to them that premature diversion of energies into sexual channels—either by masturbation or heterosexual relations—is likely to have a seriously handicapping effect both mentally and physically. Moreover, the dangers of venereal infection and of illegitimate pregnancy should be pointed out. Neither distortion nor exaggeration of the facts is necessary or desirable." "Following is an outline plan of suggested mental hygiene activities for a public-school sys-

tem: [fifteen suggestions]." The next chapter touches upon psychiatric problems at large—industrial psychiatry—military psychiatry—a state mental hygiene program. The latter ends with the italicized statement "Mental health is purchasable."

Part IV is devoted to special diagnostic procedures, the laboratory and the mental test, including the Kent-Rosanoff free association material—for those who are seeking the last mentioned material the reviewer may state that the matter formerly published in this JOURNAL is here largely reproduced—and an extract from the Hoch-Amsden "Guide to the Descriptive Study of the Personality." Part V "Appendices" includes the American Psychiatric Association classification of mental disease, reprinted from the fourth edition of the Statistical Guide, 1918; height and weight norms; statistical tables of intelligence quotients; and a glossary and index of subjects and authors.

HARRY STACK SULLIVAN,  
Sheppard and Enoch Pratt Hospital.

*Brain and Mind, or the Nervous System of Man.* By R. J. A. BERRY, Dean of the Faculty of Medicine, etc., University of Melbourne, etc. (New York: The Macmillan Co., 1928.)

This book may be considered under two headings—an anatomical and a clinical. The anatomical part is accurate while the clinical is at best controversial. The author starts off with an accurate and fairly concise description of the anatomy and physiology of the nervous system. With his facts there can be no disagreement but many of his conclusions are still open to discussion. Most anatomists at the present time are unwilling to stand with the author in such statements as; "there thus appears to be an established physical basis for many social problems, such as, certain phases of crime, prostitution and general social inefficiency."

Dr. Berry's attempt to span the gap between neuro-physiology and psychology is interesting but not altogether convincing. He starts with the statement that the neurones are the physical instruments of the mind. "As the brain is known to consist only of neurones embedded in neuroglia it is clear that neurones in combinations of chains and arcs are the physical instruments of the mind." Of course this may be true but it is not by any means proven. The same may be said of the statement that "ideas are merely words stored up in cortical neurones." Such attempts to define the language of psychology in terms of neuro-physiology are interesting but one feels that the ideas do not gain much in clarity in the translation.

In Part II, "The Nervous System in Health and Disease," the author essays to apply his neurological theories to clinical phenomena. For him all must be explained on a basis of neurophysiology. The broader physiology of adaptation that is known as psychology receives short shrift in this book. The "Freudian School" comes in for the usual castigation. "In fact both the diagnosis and treatment of this school of thought (psychoanalysis) appear



to be based on hypotheses advanced in defiance of all evidence—medical, neurological and physiological." One wonders whether that statement may not have some of the characteristics of the boomerang.

Clinically Berry recognizes two states, amentia and dementia. Most known clinical mental states apparently are amentias. Under this heading we find grouped all the psychoneuroses, Huntington's chorea, epilepsy, hysteria, neurasthenia and psychasthenia. Amentia is defined as follows: "By amentia is here meant an underdevelopment of the cortical neurones from any cause whatsoever, and in consequence of which the individual is unable to react to his environment in a manner regarded as normal by standards of normality." One looks for the evidence on which such clinical interpretations of amentia are based and one finds the statement: "Were a systematic microscopic examination made of the cortical cells of all patients who have died after having suffered from many of the neuroses and the so-called psychoneuroses, it is very probable that amentia would be found to be the common underlying factor." And one is not convinced.

The author's diagnosis is made mostly by means of measurements of the head and other parts of the body, aided by psychometric tests and mathematical calculations. Personality studies and a knowledge of the environment appear to be quite superfluous. Your reviewer, being poor at mathematics is singularly out of sympathy with the whole thing. In conclusion the author presents five clinical cases that do not impress the reviewer as proving anything except, perhaps, that this concept of amentia has not served to make psychiatric diagnosis any the less inaccurate and unclear.

One lays the book down in sadness; for, from such a point of view, the whole field of mental medicine appears quite forlorn and hopeless of results and one turns back to psychotherapy, even psychoanalysis, as one turns to surgery, with all its dangers, in the early treatment of cancer.

LOUIS CASAMAJOR, M. D.

*Sex in Civilization.* Edited by V. F. CALVERTON and S. D. SCHMALHAUSEN, with an introduction by HAVELOCK ELLIS. (New York: The Macaulay Company, 1929.)

This book consists of a series of essays on the problem of sex by 32 different authors, all of whom discuss some special aspect of the problem.

An attempt is made to relate and group these different essays under six headings: (1) Sex Through the Ages; (2) The Role of Sex in Behavior; (3) Sex and Psycho-Sociology; (4) Sex and Psychoanalysis; (5) The Clinical Aspect of Sex; (6) Sex in Poetry and Fiction.

As might be expected there is considerable overlapping and repetition and the view point of the different writers varies. For example, William McDougall argues in favor of taboos and takes a very conservative view, whereas J. William Lloyd argues for a rather extreme degree of freedom and Samuel D. Schmalhausen refers to McDougall as "the last of the Mid-Victorians," and quotes some three pages from McDougall's book, *Character and the Conduct of Life*, to show what he considers the absurdity of



McDougall's views. Under the topic of Psychoanalysis we find a similar conflict of views occurring.

The essays vary greatly in their values; some seem quite worthwhile contributions, whereas others are either a series of platitudes or else quite superficial.

To the reviewer the most interesting essays are: Sex in Religion, by Robert Briffault; Sex and the Law, by Huntington Cairns; The Sexual Factor in Divorce, by Arthur Garfield Hays; Sex and Social Struggle, by V. F. Calverton; Sex in Education, by Harry Elmer Barnes; The Sexual Revolution, by Samuel D. Schmalhausen; Freud's Theory of Sex: A criticism, by Abraham Myerson; and The Art of Love, by William J. Fielding.

From the psychiatrist's standpoint, the article on Sex and Insanity, by J. Blake Eggen, seems an extremely one-sided presentation of the subject. A great deal of space is devoted to the discussion of the increase of insanity and to various historical views as to the cause of it. A large amount of space is devoted to quoting a case of Dr. Samuel A. Tannenbaum's that was published in *Psyche* and *Eros*. The writer considers almost entirely Freud's views and can hardly be considered as having given a satisfactory presentation of his topic.

In general the book can be definitely recommended as composed of a series of essays by competent men, who have presented somewhat divergent view points to the whole problem of sex, and who have probably summed up in a fairly satisfactory way our present knowledge of the subject.

KARL M. BOWMAN, M. D.,

*Boston Psychopathic Hospital.*